

May 2026

12th Edition

SWR

Magazine 1:1

ISSN: 3068-7233



Real Operators. Real Stations. Real Radio.

— ANNIVERSARY EDITION —

60+ Countries • 12,000+ Readers • Global Community

www.swrmagazine.org

Introduction

On the Cover

The May 2026 edition of SWR Magazine marks a deeply meaningful moment in our history: we celebrate our first anniversary. Twelve months of work, passion, and commitment to amateur radio are captured in an image that reflects the essence of who we are.

On the cover, we see a radio amateur immersed in his station, focused in front of his equipment, surrounded by that familiar environment known to those who live this fascinating hobby. Resting on the desk, carefully placed, is a copy of SWR Magazine. This detail is not a coincidence, it is a symbol. It

represents the journey we have built alongside our community and the impact the magazine has had in such a short time.

The scene conveys authenticity. It is not just a photograph; it is a story: that of the ham operator who learns, experiments, makes contacts, and evolves. The presence of the magazine within his own operating space reflects how SWR Magazine has gone from being an idea to becoming a real, useful, and close companion for operators around the world.

This cover is also a tribute to every reader, contributor, and radio enthusiast who has been part of this first year. Because if we have learned anything, it is that amateur radio is not only about rigs and antennas, but about people, shared knowledge, and community.

We celebrate this anniversary with gratitude and with our eyes set on the future. This simple yet powerful image reminds us why we started... and why we continue.



Real Operators. Real Stations. Real Radio.

ANNIVERSARY EDITION

60+ Countries • 12,000+ Readers • Global Community

Contents

SWR Magazine

Connecting Passions, Inspiring Operators

Published by the Caribbean Amateur Radio Group (CARG)

Editorial Board

Publisher, Technical Editor: Juan R. Montijo, WP4OV

Editor-in-Chief: José Candelaria, NP4ET

Publication Details

Format: Digital Magazine

Frequency: Monthly

Language: English

ISSN ISSN: 3068-7233, English Edition

Copyright and License

SWR Magazine © 2025 by the Caribbean Amateur Radio

Group is licensed under the Creative Commons

Attribution-NonCommercial-NoDerivatives 4.0

International License, CC BY-NC-ND 4.0.

Libraries and educational institutions are permitted to share and distribute this publication, provided it remains unchanged and proper credit is given.

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Contact

info@swrmagazine.org

publisher@swrmagazine.org

Support SWR Magazine

SWR Magazine is a bilingual, free publication dedicated to connecting and inspiring the global amateur radio community. If you enjoy our content and would like to support our mission, we invite you to make a voluntary contribution. Your support allows us to continue producing high-quality content, expand our reach, and keep this publication accessible to everyone.

Section 1

Editorial	05
World News	07
Anniversary Supplement	11
Invisible Friendships	17
8-Meter Band	20
Amateur Radio and Youth	25

Section 2

Vertical Antenna	28
Kenwood TH-D75A	32
World Cup on the Air	40
Impedance	43
RF Chokes	51
Women's Frequency	59

Section 3

Power Supply	67
Hellschreiber	71
Fox hunting	75
Tower on the Air (TOTA)	78
Hot Tuna	81



[Click here to donate](#)

SWR Magazine — Connecting
Radio Amateurs Around the World

THE SCIENCE BEHIND SWR

DESIGNING CONTENT YOUR BRAIN WANTS TO READ

We use neuromarketing principles to create content that is easier to understand, more engaging, and more valuable for you.



1. THE REALITY

How readers actually behave



Readers don't read... they scan.

We have only **3-5 seconds** to capture attention.



The brain looks for signals, not paragraphs.

It searches for titles, keywords, images and visual hierarchy.



Clutter and long blocks create cognitive overload.

Too much text = more effort.
More effort = readers leave.



2. WHAT WE DO

Our neuromarketing approach



Short, focused content blocks

Easy to scan. Easy to understand.



Clear structure and hierarchy

We guide your eyes and your mind.



Strategic use of visuals and highlighted boxes

Information that stands out gets remembered.



White space and rhythm

We give your brain room to breathe.



3. THE RESULT

Better for readers.
Better for partners.



Higher engagement

Readers stay longer and connect more.



Longer reading time

More time with your message means more impact.



Stronger advertiser visibility

Better recall, stronger results, real value.



LESS COGNITIVE EFFORT = MORE READER RETENTION



When content is easy to process, the brain rewards you with attention.
That's the science. That's how we design SWR Magazine.



TECHNICAL CLARITY. HUMAN CONNECTION. REAL ENGAGEMENT.

That's the SWR advantage.

We combine solid amateur radio knowledge with smart content design so you can enjoy what you love most: making great radio.

SWR
THE RADIO AMATEUR'S
MAGAZINE

swrmagazine.org



KNOWLEDGE



PASSION



COMMUNITY



CONNECTION

EDITORIAL

A JOURNEY THAT TRANSCENDS BORDERS



Photo by: spectrum.ieee.org

Contributors:

Paul R. Signorell W0RW
John M. Sokol, WQ2XDM
Alan Wilson N0XO
Joel M Harrison W5ZN
Yanira Maldonado, WP4QOE
Abimael Padro KP4RY
Julio Mercado WP4PUX
Luis Gómez, WP4LG
Norberto Nosti EA1JAB
Terry Rossi, N2LQH

Subscribe completely free:

<https://forms.gle/DDhwNTQpFdpdWBZ87>



May marks a special moment for SWR Magazine. What began as a quiet, almost intimate idea has now become a platform that continues to grow strongly within the global amateur radio community. This month we celebrate not only growth, but also evolution, learning, and the consolidation of a vision that keeps taking shape with each edition. In a very short time, the magazine has transcended borders. What started as a project with regional reach now connects readers across the Americas, Europe, Asia, and beyond. The addition of new languages, such as English and Italian, has not only expanded our audience, but has also reaffirmed something we have always believed: amateur radio is a universal language.

Our gratitude is, above all, to you. To our readers, for accompanying us in every

edition and making this project something alive; to our contributors, who bring knowledge, experience, and passion to every article; and to our sponsors, whose support allows SWR Magazine to continue growing while remaining accessible to everyone.

Looking back, it is impossible not to recognize how much has been accomplished in such a short time. Each achievement reflects the constant effort and passion that drive this project, as well as the support of a community that has believed in its purpose from the very beginning.

We approach our first anniversary, a milestone that represents growth, commitment, and the confirmation that this journey is worthwhile. And best of all, this is only the beginning.

May opens the door to new opportunities, more stories to tell, and new voices joining this global conversation. We continue moving forward with the same passion that inspired us from day one.

The future is full of possibilities, and together we continue making amateur radio a space that unites generations, cultures, and experiences.

Thank you for being part of SWR Magazine.

With gratitude,
The SWR Magazine Team



Photo by: Tidradio

Discover SWR Magazine

SWR Magazine is the free digital magazine for ham radio enthusiasts. Connect with the world of radio waves!



Technical Articles



Field Experiences



Equipment Reviews



Educational Section

swrmagazine.org

Subscribe for FREE at swrmagazine.org! ▶

swrmagazine.org

Available in Spanish • English • Italian



DAYTON HAMVENTION® Radio Adventure



Greene County Fairgrounds & Expo Center

Get Your Tickets Online NOW!
\$30 in Advance of the Show

May 15 - 17, 2026

- Exhibits & Flea Market
- Forums & Activities
- Networking & More!

hamvention.org



WORLD NEWS

“Carrier-grade” backbone for amateur radio created using 44Net and Yaesu IMRS

A project developed by amateur radio operators in Australia has implemented a high-performance repeater interconnection network using the Yaesu IMRS system over the 44Net IP infrastructure from ARDC. The initiative, led by operators with the VK callsign prefix, integrates multiple repeaters through a “carrier-grade” architecture featuring dynamic routing, traffic segmentation, and secure tunneling to ensure stability and low latency in digital voice communications. The design includes link redundancy and traffic prioritization, which enhances system reliability even in failure scenarios. This approach consolidates a robust and scalable platform for future expansion of interconnected amateur radio networks, while also serving as a replicable technical model for other groups seeking to modernize their digital infrastructure.

Icom surprises with the X-026 concept at Dayton Hamvention 2026



The renowned Japanese company Icom Inc. has announced the worldwide unveiling of its new X-026 concept during Dayton Hamvention 2026, one of the most important events in the amateur radio world, taking place from May 15 to 17 in the United States.

Labeled as a “concept mock-up,” the X-026 is not yet a commercial product, but rather a preliminary vision of what the next generation of radio equipment could look like. However, the video preview has already generated significant excitement within the community.

The released images show a design clearly oriented toward mobile use, with a strong emphasis on in-vehicle integration. Among the most striking details are a separate control panel, multiple antenna connections, and a modern interface, suggesting a focus on flexibility and advanced functionality.

Although Icom has not disclosed official technical specifications, experts speculate that it could be a multiband unit with expanded capabilities, possibly revisiting the concept of “all-in-one” radios adapted to the evolving needs of today’s ham operators.

The presentation of the X-026 at Dayton will mark a key moment in understanding the future direction of mobile radio design. For now, the community remains attentive to what could become one of the most interesting developments in the ham radio world in the coming years.



WORLD NEWS

HAMVENTION 2026

Hamvention 2026 continues to consolidate its position as one of the most important events in the world of amateur radio, bringing together thousands of operators, manufacturers, and organizations at the Greene County Fairgrounds and Expo Center in Ohio.

This convention provides a key platform for the introduction of new technologies, communication equipment, technical projects, and educational activities that foster innovation within the hobby.

Throughout the event, technical conferences, commercial exhibitions, contests, and swap areas are held, where the international amateur radio community shares experiences and advances in digital, satellite, and emergency communication systems.

With its strong focus on innovation and knowledge exchange, Hamvention remains an essential meeting point that drives technological development and the continued growth of amateur radio on a global scale.

ITU Corporation transforms historic Linton armory into new amateur radio antenna manufacturing center



ITU Corporation has announced the acquisition and repurposing of the former National Guard armory in Linton, Indiana, to establish a new manufacturing center dedicated to high-performance amateur radio equipment, including the well-known Hy-Gain and Cushcraft brands, following their acquisition from MFJ Enterprises. The project represents a significant expansion of U.S.-based production, relocating operations from Mississippi to a 15-acre facility in Linton, with the goal of consolidating the manufacturing of antennas, rotators, and communication equipment under one roof. According to the company, the new operation will initially create between 20 and 50 jobs, with potential growth as production scales up. MFJ founder Martin F. Jue emphasized the importance of preserving the legacy of these historic brands under a company committed to quality and innovation in the sector. ITU Corporation, which also operates educational and technology divisions such as LearnLab and TekShack, stated that the transition aims to strengthen “Made in USA” production and ensure continuity of equipment widely used by ham operators around the world, marking a new chapter for two of the most iconic antenna lines in the hobby.

Source: lintonnews.com

SWR ON THE AIR

From Our Readers

REAL OPERATORS. REAL STATIONS. REAL RADIO.

At SWR Magazine, we believe the heart of amateur radio lives in your shack, your antennas, and your experiences on the air.

We invite readers worldwide to share photos that capture the essence of ham radio in action.



WHAT WE'RE LOOKING FOR: _____



SHACKS



ANTENNAS



FIELD DAY



JOTA / JOTI



CLUB ACTIVITIES



POTA / SOTA / BOTA



MOBILE SETUPS



PORTABLE STATIONS

REAL OPERATING MOMENTS

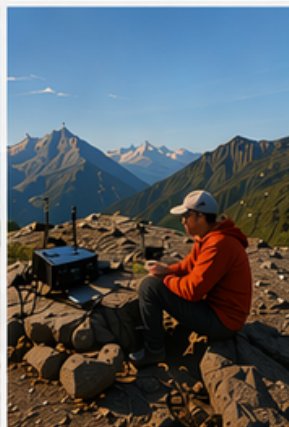


EDITORIAL SELECTION _____

All submissions are reviewed under editorial criteria.

SWR Magazine reserves the right to select, edit, or decline any submission.

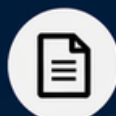
Selected photos may appear throughout the magazine as part of our visual storytelling.



SUBMIT YOUR PHOTOS:

editorial@swrmagazine.org

Include: Name, callsign, location, and a short caption.



FULL GUIDELINES & RULES:

Scan the QR code or visit:

<https://swrmagazine.org/documents>



Amateur radio
related content only



No compensation
is provided



Contributors retain
ownership of their images



Thank you for helping
tell our story!

Your station. Your signal. Your story.

YAGI vs. LOG-PERIODIC

Two directional antennas. Different strengths.

Both work very well. The correct choice depends on what you actually need.

ASPECT	YAGI-UDA	LOG-PERIODIC (LPDA)	WHAT DOES IT MEAN FOR YOU?
 BANDWIDTH	Narrow Optimized for a specific band. Outside of it, performance drops.	Wide Covers multiple bands (HF to VHF) with good efficiency. Ideal if you want to work different frequencies.	 If you value multi-band operation without changing antennas, the log-periodic adapts better.
 GAIN	Very high (within its band) Maximum performance at the frequency it is designed for.	Moderate and consistent Does not reach the peak gain of a Yagi in a single band, but remains uniform across its range.	 If you seek maximum gain on a single frequency, the Yagi is better.
 FREQUENCY COVERAGE	Limited Each antenna is designed for one band. You need another one to change bands.	Very broad One antenna can cover multiple bands (for example, 20 to 6 m in HF).	 If you operate contests or DX on a specific band, choose Yagi.
 FLEXIBILITY OF USE	Less flexible If operated outside its optimal band, performance is greatly affected.	More flexible Accepts a wide frequency range while maintaining usable performance.	 If your operation changes frequency often, LPDA gives you more margin and adapts without frustration.
 DESIGN & INSTALLATION	Simpler Fewer elements, lighter, and easier to build.	More complex More elements and longer structure. Requires more space and careful installation.	 If you prefer simplicity and lightweight systems, Yagi is ideal.
 INVESTMENT	Generally lower Less material and shorter boom length.	Generally higher More elements and longer boom length.	 If you want a "one antenna covers everything" approach, LPDA is the solution.

WHAT DOES IT MEAN FOR YOU?



- If you value multi-band operation without changing antennas, the log-periodic adapts better.
- If you seek maximum gain on a single frequency, the Yagi is better.

- If you operate contests or DX on a specific band, choose Yagi.
- If you prefer simplicity and lightweight systems, Yagi is ideal.
- If you want a "one antenna covers everything" approach, LPDA is the solution.



FINAL IDEA

If your goal is to squeeze **maximum performance** from one band, Yagi gives you that extra edge.
If your goal is **flexibility** across many bands with a single antenna, the log-periodic delivers.



YOUR OBJECTIVE DEFINES YOUR ANTENNA.
KNOW YOUR PRIORITIES—THERE IS NO SINGLE BEST ANSWER.



DEFINE YOUR GOAL



KNOW YOUR PRIORITIES



CHOOSE WITH CONFIDENCE



Elk Antennas

LOG-PERIODIC ANTENNAS
for the Radio Amateur

Proven Performance.
Anywhere You Operate.



Ideal for satellites, DXing, contesting, EmComm, and public service.



Perfect for hand-held use, portable operations, or permanent installations.



Built tough. Designed to perform. Trusted by radio amateurs worldwide.



Elk Antennas are great for

Hand-held • Portable • Permanent Installation

2M/440L5

DUAL-BAND ANTENNA
2m & 70cm • VHF/UHF



- ✓ Satellite operation
- ✓ Portable & field deployment
- ✓ Amateur Radio & GMRS

440L8

70 cm BAND
UHF ANTENNA



- ✓ High-performance 70 cm antenna
- ✓ Excellent for GMRS & Amateur Radio
- ✓ Rugged, reliable construction

220L6

1.25 METER BAND
VHF ANTENNA



- ✓ Effective 220 MHz communications
- ✓ Great for DX, repeaters & weak signal work
- ✓ Lightweight, durable & easy to deploy



www.ElkAntennas.com



jim@siemons.com



Proudly made in the USA
by hams, for hams.



ONE YEAR OF IMPACT

CONNECTING PASSIONS.
INSPIRING OPERATORS



60+
COUNTRIES



THOUSANDS
OF READERS



12
EDITIONS



ONE COMMUNITY
THAT KEEPS GROWING

ALWAYS FREE. ALWAYS QUALITY.

FREE DOES NOT MEAN WE COMPROMISE QUALITY.

One year ago, SWR Magazine was born with a clear idea: to create a free, high-quality magazine, made by and for radio amateurs around the world.

From day one, our commitment has been to deliver much more than content: to build a publication with purpose, carefully curated, designed and produced with the same editorial standards as a premium magazine.

We believe that knowledge, inspiration and passion for amateur radio should be within everyone's reach.

THAT'S WHY:



WE NEVER SELL YOUR INFORMATION

We will never sell our subscribers' information to promotions companies or third parties.



WE DO NOT FLOOD OUR PAGES WITH ADS

We do not overload our magazine with unnecessary ads that take value away from your reading experience.



EVERY AD WE ACCEPT IS CAREFULLY EVALUATED

We make sure it brings real value, usefulness and interest to our readers and our community.



EVERY ARTICLE, IMAGE AND COLLABORATION

is handpicked with editorial criteria, respect for our readers and passion for this hobby.

In a world where so many platforms sacrifice quality for volume, we choose a different path: **DOING THINGS THE RIGHT WAY.**

SWR Magazine is possible thanks to the support of our readers, collaborators, advertisers and friends who believe, like us, that amateur radio continues to be a force capable of educating, uniting and inspiring.

**THANK YOU FOR BEING PART OF
THIS FIRST YEAR OF IMPACT.**

The best is yet to come.



SWR)))
MAGAZINE

CONNECTING PASSIONS.
INSPIRING OPERATORS.

Juan Montijo
Juan Montijo, WP4OV
PUBLISHER

José Candelaria
José Candelaria, NP4ET
EDITOR IN CHIEF

BEYOND A MAGAZINE. A MOVEMENT.

THE STORY BEHIND OUR FIRST YEAR.

When SWR Magazine was born, it wasn't just the launch of another publication. It was the beginning of a mission: to create a free, high-quality magazine made by and for amateur radio operators, with the same care, depth and professional standards as any premium publication.

One year later, that mission has become a global movement powered by passion, dedication and the belief that amateur radio connects us all.

“From the first idea to thousands of readers around the world, this is the story of how a dream became a community—and how that community is shaping the future together.”

WHAT DRIVES US



PASSION

A deep love for radio and a desire to share what inspires us.



KNOWLEDGE

Delivering technical and practical content that educates and empowers.



COMMUNITY

Building connections that transcend borders and frequencies.



PURPOSE

Giving back to amateur radio by creating something truly meaningful.



THE JOURNEY CONTINUES

This is only the beginning.

Together, we will keep raising the standard of amateur radio media.

THANK YOU FOR BEING PART OF THIS STORY.



60+

COUNTRIES
REACHED



3,700+

ACTIVE
SUBSCRIBERS



12

EDITIONS
PUBLISHED



ONE

GLOBAL COMMUNITY
THAT KEEPS GROWING

SWR MAGAZINE: ONE YEAR CONNECTING THE WORLD OF AMATEUR RADIO

One year ago, SWR Magazine was born as an idea built on friendship, shared passion, and a clear vision: to create a publication that could speak to radio amateurs in a different way.

The original idea came from José Candelaria, NP4ET, whose passion for amateur radio and dedication to telling meaningful stories shaped the foundation of what SWR would become. As President of the Caribbean Amateur Radio Group, and publisher of SWR Magazine, I joined him to turn that vision into reality.

What started as a simple concept quickly became something bigger—something that required commitment, consistency, and trust.

From the beginning, we knew SWR had to be different—not just in content, but in the way it connected with readers.

One of the most important decisions was choosing FlipHTML5, the digital publishing platform that allows us to combine the experience of a traditional magazine with the analytics and distribution power of a digital platform.

Without the resources for large-scale distribution, we relied on what amateur radio has always stood for: community.

We started by sharing the magazine with friends, fellow operators, and radio groups. Through direct outreach, social media, and a growing network, SWR started to expand organically.

A turning point came with the introduction of the subscription model—offering early access to subscribers. A simple decision that became the foundation for building a global audience that keeps growing.



PUBLISHER MESSAGE

My professional life has always been connected to business and service—not to publishing.

And yet, for more than 45 years, amateur radio has been part of me.

From a young age, I was drawn to knowledge—spending countless hours reading magazines like CQ, 73 Magazine, QST, and Popular Communications.

When the opportunity came to build SWR, I realized this was not just a project—it was a way to give back to this passion.

This journey has been full of long nights, continuous learning, and moments of uncertainty. But it has also been one of the most rewarding of my life.

“What I learned is simple: Passion, consistency, and vision matter more than having all the answers.”

Today, SWR is not just a magazine—it is a community. And this is just the beginning.



Juan Montijo, WP4OV

Publisher & Technical Editor
SWR Magazine

EDITOR-IN-CHIEF MESSAGE

When SWR Magazine was born, it started quietly.

The idea already existed, but it needed the right moment to take shape.

In May 2025, I decided to start over—with a clear purpose: to create a magazine that connects amateur radio operators through stories, experiences, and accessible technical content.

What followed exceeded every expectation.

The magazine grew fast, reaching readers in multiple continents. The expansion in English—and later in Italian—turned SWR into a global platform.

Behind every edition, there is dedication, work, and a commitment to quality.

But most importantly, SWR found its identity.

“A space where amateur radio operators can learn, share, and feel part of something bigger.”

This is just the beginning.



José Candalaria, NP4ET

Editor-in-Chief
SWR Magazine



Invisible Friendships, Echoes That Cross the Ionosphere

By: Jose M. Candelaria NP4ET

Memories of a Voice in the Noise and Friendships That Time Does Not Erase

My story in amateur radio did not begin with a large station or a license on the wall. It began with curiosity... and with a whisper lost in the air.

I was only 14 years old when my cousin came home with a CB radio. I didn't know how to use it



or how to build a proper antenna. But that simple, unfamiliar device opened a door that has never closed in my life.

At that moment, I remembered a school friend who used to talk on CB. The next day I went to see him. I asked for help, and with patience he taught me how to build a dipole. Without knowing it, I was learning the foundations of something much greater: the invisible language of electromagnetic waves.

That afternoon, together with my cousin, we turned on the radio. Amid the white noise, the crackling static, a female voice emerged. She was not far away, perhaps three kilometers. But for us, it felt as if the world had just spoken to us for the very first time.

THAT'S WHERE IT ALL BEGAN.

Shortly afterward, I acquired my first Midland 23-channel SSB radio. I built my own dipole antenna and began exploring that invisible universe that constantly surrounds us, even though we cannot see it.

Radio waves are always traveling around us. Some move in straight lines, others reflect off obstacles, but the most fascinating are those that interact with the ionosphere a layer of ionized particles surrounding Earth at altitudes of tens to hundreds of kilometers. When conditions are right, when the sun, time of day, and solar activity align signals can "bounce" off this layer and return to Earth thousands of kilometers

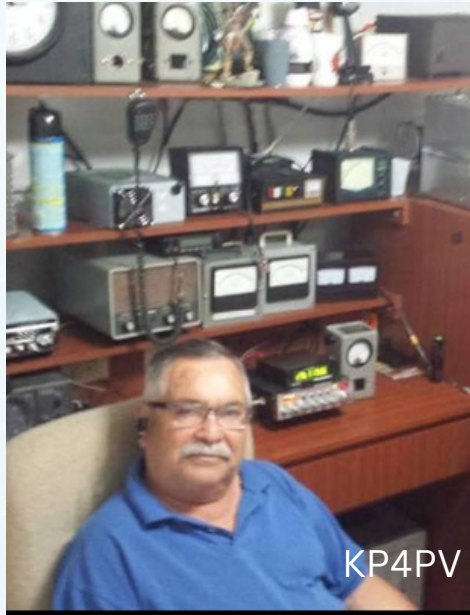
away. This is what we call skip propagation or “hop.” And it is there where the magic of DX is born.

One day, in the middle of that exploration, I heard something that changed my perception of the world: a station from Honduras.

That voice cut through the noise, crossed invisible borders, and reached my small receiver as if distance did not exist. In that moment, I understood that the planet could feel small... if propagation allowed it.

But beyond the science, what truly captivated me were not the waves, but the people. Because amateur radio, in its purest essence, is not only physics or technology. It is humanity turned into signal.

I also remember my childhood days spinning the dial of a shortwave radio. Listening to distant stations felt like opening windows to the world. Voices arriving weakened by distance, yet filled with life, culture, and emotion.



Later on, a friend, Eliezer Rivera (NP3EW), took me to meet another radio amateur, Idelfonso Janeiro (KP4PV). In his radio shack, I saw for the first time a Yaesu FT-101 operating on 20 meters. That was not just a piece of equipment. It was a doorway to the entire planet.

On that band, I heard multiple stations at the same time: Europe, North America, the Caribbean, South America... all coexisting in the same invisible space. It felt as if the entire world was breathing on a single frequency.

And then I understood it: the ionosphere does not only reflect signals... it also connects lives. From that moment, a deep passion for DX was born in me. But beyond contacting distant countries, something even more important emerged: the desire to create friendships without borders.

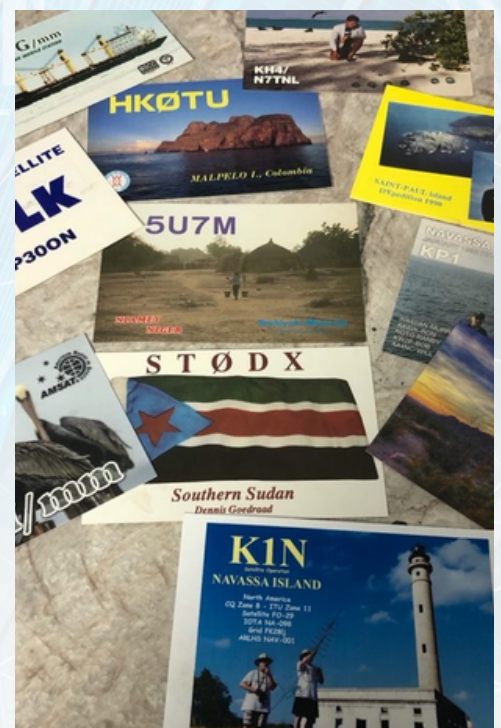
Because in amateur radio something extraordinary happens. You can speak with someone you have never seen, who lives on another continent, who speaks a different language... and still recognize them as a friend.

Over time, I discovered that these friendships have their own language. They are built gradually, contact after contact, through signal reports, repeated conversations, and shared laughter on the bands.

And above all, through a small rectangular piece of paper that travels the world: the QSL card.

QSL cards are much more than a confirmation of a contact. They are the physical memory of something invisible. They are tangible proof that two stations met in the air, even if they never saw each other. Many of them end up on walls, in albums, or in boxes full of stories. Each one represents a precise moment in the propagation of the universe.

Because every QSO is unique. The ionosphere is never the same twice. It changes with the sun, with the seasons, with geomagnetic activity. A contact that is impossible today may be strong and clear tomorrow. That is how alive the sky of radio waves truly is.



Years later, life took me down other paths, and amateur radio went into pause. But waves, like memories, never disappear. They simply wait for the right conditions to return.

In my 30s, life gave me a second chance. I reconnected with old friends who were already radio amateurs, and that is when I decided to return to the world that never stopped calling me.

I obtained my license. I turned the radio back on. And I returned to that space where distance stops being a limit and becomes an experience.

Today, when I operate, I do not feel like I am transmitting. I feel like I am sending words into the wind, trusting that the physics of the universe will do its work: reflecting them, guiding them, carrying them to someone who is listening.



And someone answers.

And in that instant, something extraordinary happens: two people separated by thousands of kilometers share a single second of humanity.

Because in amateur radio, distance does not disappear... it transforms into connection.

Today, I value more than ever what this hobby truly means. It is not just about equipment, antennas, or digital modes or SSB. It is about the ability to create human bonds without borders.

Invisible friendships that do not need to be seen in order to exist. Friendships that travel on radio waves, crossing the ionosphere like an invisible bridge between cultures.

Friendships confirmed with a QSL... but felt long before that card ever arrives by mail.

And so, in every contact, in every "59, your signal is strong," in every exchange of cards, I understand that amateur radio is much more than communication.

It is human encounter in its purest form.

It is the art of listening to someone who is far away... and feeling them close.





Experimental Research on the 8-Meter Band from Florida, and Soon the 4-Meter Band

By: John M. Sokol, WQ2XDM

Amateur radio continues to evolve in exciting ways, and one of the most fascinating frontiers today is experimental operation on non-traditional bands. From my station in Florida (grid EL98), I have been actively conducting research on the 8-meter band using FT8, with promising results that highlight the potential of this rarely explored portion of the spectrum.

Why 8 meters?

The 8-meter band (around 40 MHz) occupies a unique position between traditional HF and lower VHF frequencies.

This region presents propagation characteristics that can resemble both worlds, making it ideal for experimentation. At times, signals behave similarly to HF, benefiting from ionospheric propagation, while at other times they show more VHF-like behavior, including shorter skip distances and openings via sporadic-E propagation.

This duality makes 8 meters particularly valuable for researching propagation mechanisms that are still not fully understood.

“This duality makes 8 meters particularly valuable for researching propagation mechanisms that are not yet fully understood.”

Station Setup



Vertical antenna system used for 8-meter experimentation

My current setup is relatively simple, but optimized for digital operation. The system includes a Yaesu transceiver paired with a Signalink USB interface, enabling reliable FT8 operation. A transverter is used to reach the operating frequency of 40.680 MHz.



**Transceiver and Signalink interface used for FT8 operation.*

The antenna system consists of a vertical configuration mounted on a tower, providing a low-angle radiation pattern suitable for long-distance propagation. This setup has proven effective for both regional and longer-distance contacts.

Operating Schedule and Method

WQ2XDM — 8 Meter FT8 Operating Schedule

Grid: EL98 — Florida (Eastern Time)

UPDATED SCHEDULE

Frequency: 40.680 MHz

Operating Times

Florida Time

• 8:00 AM

• 10:00 AM

• 12:00 PM

• 2:00 PM

• 4:00 PM

• 6:00 PM

• 8:00 PM

Florida Time	UTC (Zulu)
8:00 AM	12:00 UTC (12Z)
10:00 AM	14:00 UTC (14Z)
12:00 PM	16:00 UTC (16Z)
2:00 PM	18:00 UTC (18Z)
4:00 PM	20:00 UTC (20Z)
6:00 PM	22:00 UTC (22Z)
8:00 PM	00:00 UTC (00Z)

Top & Bottom of the Hour

Transmit at :00 and :30 for 8 Minutes

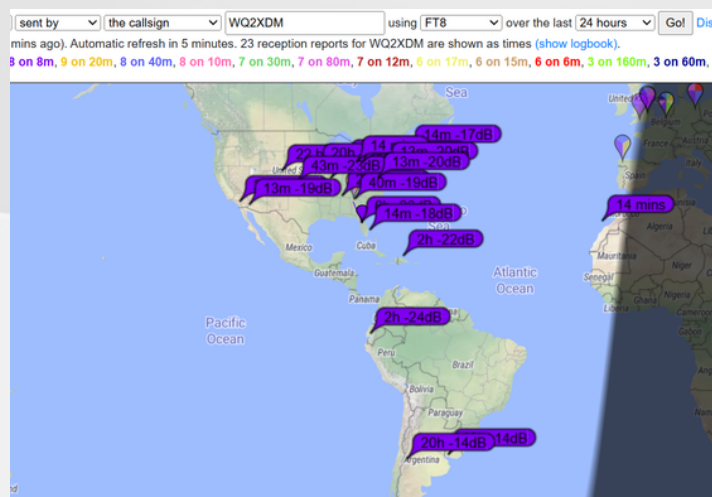
Daylight Saving Note: During EDT (UTC-4), subtract 1 hour from UTC times.

FT8 operating schedule for transmissions on 40.680 MHz.

Operations are conducted on 40.680 MHz using FT8, typically at the beginning and middle of each hour. Each transmission cycle lasts approximately eight minutes, allowing sufficient time for stations to decode and respond.

This structured schedule helps maximize reception reports and provides consistent data for analysis.

Results and Observations



PSK Reporter reception map showing wide geographic coverage.

Reception reports collected via PSK Reporter show a wide geographic distribution, including stations in North America, parts of South America, and occasional transatlantic paths into Europe.

Signal strengths have varied, but consistent decodes confirm that the band is capable of supporting reliable communications under favorable conditions. Sporadic-E propagation appears to play a significant role, especially during peak seasonal periods.

Looking Ahead: 4 Meters

Motivated by the success on 8 meters, there are already plans to expand experimentation into the 4-meter band (around 70 MHz). This band presents its own challenges and unique opportunities, particularly in regions where amateur radio access is limited or experimental.

The goal is to compare propagation behavior between 8 and 4 meters, contributing additional data to the amateur radio community.

Conclusion

Experimental work like this helps push the boundaries of what is possible in amateur radio. The 8-meter band, although not widely used, offers exciting opportunities for discovery and technical advancement.

As more operators become interested in these frequencies, the

collective knowledge will continue to grow, and with it, our understanding of the radio spectrum.

About the Author

John M. Sokol, WQ2XDM, operates from central Florida under an experimental license granted by the FCC, currently the only active authorization in the United States for research on the 4- and 8-meter bands.

His work focuses on FT8 and WSPR monitoring on 40.680 MHz, collecting real propagation data and encouraging global participation.

More information: <http://wq2xdm.com/>

Contact: WQ2XDM.fl@gmail.com

*The HF equipment shown in the photo is used as an IF exciter for a 70 MHz transverter, which explains why the display shows 28 MHz during 4-meter operation.



DXpeditions

DXpeditions remind us that amateur radio is much more than long-distance contacts: it is the art of connecting people across oceans, jungles, and mountains using only propagation and a passion for communication, creating unique connections between operators who share the same enthusiasm for discovering new signals around the world, where each contact becomes an experience of learning, exploration, and friendship without borders.



01. C5B Bijol Islands

The C5B team will be active from the Bijol Islands, IOTA AF-060, The Gambia, from April 24 to May 8, 2026.
Team: F5RAV, F4AGG.
Recent DX spots: C5B.
They will operate on the HF bands, as well as via satellites.
QSL via LoTW and eQSL.

01

The Bijol Islands are a small group of uninhabited islets located off the coast of The Gambia in West Africa, within the Atlantic Ocean. Administratively, they belong to The Gambia and are part of the IOTA reference AF-060, which makes them of special interest to the amateur radio community.

They are characterized by low-lying, sandy terrain with no permanent population or infrastructure, contributing to their largely untouched, pristine condition. These islands are primarily recognized for their ecological value, as they serve as a habitat and resting area for seabirds and other coastal species.

Due to their isolation and difficult access,

activations from this location are rare, making any radio expedition there a highly anticipated event within the DX community.



02.

T88SG Koror Island Palau

R3QFB will be active as T88JH from Koror Island, IOTA OC-009, in Palau, from May 21 to May 24, 2026.

Koror is one of the main islands of Palau and is well known in the amateur radio community for its Pacific activations, especially within the IOTA program.

During this period, the station will operate under the callsign T88JH.



02

Palau is a small island nation in the western Pacific Ocean, covering about 458 km², located east of the Philippines. It is made up of several main islands, including Babeldaob, Koror, Peleliu, and Angaur, along with more than 200 coral islands.

Its terrain is low-lying, with gentle hills and abundant tropical vegetation, with no high mountains or volcanoes. It is especially known for its extraordinary marine richness, with thousands of fish species and a great diversity of sharks, making it a world-renowned destination for its biodiversity and underwater beauty.

03

Martinique is a tropical island located in the arc of the Lesser Antilles in the Caribbean Sea. Although relatively small, with an area of about 1,060 km², it features great geographical diversity that includes coastal plains with mangroves, coral reefs, tropical rainforests, and volcanic massifs.

In the northern part of the island stands the active volcano Montagne Pelée, which reaches 1,397 meters and is the highest point in the territory.

03.

TO3E Martinique

Lothar, DK8LRF, will once again be active as HK3JCL from Colombia, from September 3, 2025 to May 15, 2026. He will operate mainly on the 20-meter band in SSB.

Recent DX spots: HK3JCL.

QSL via his home callsign.

For direct QSL:

Lothar Froehlich, Am Isental 25, 84424 Isen, Germany.

QTH – Finca Ligia.

QTH locator: FJ34fg.





Photo by: onallbands.com

Amateur radio has a problem with youth. We caused it.

LESS TALK, MORE ACTION: THE KEY TO ATTRACTING YOUNG PEOPLE

By: NOXO (Alan Wilson)

Walk into a typical ham radio club meeting. You will see experience. You will see knowledge. You will also see how the future is slipping away. Now open the flagship publication of the American Radio Relay League, QST. Page after page of advertisements. Contest results. Equipment reviews. Very little that challenges a young mind to build, experiment, or discover. That is not a pathway for growth.

It is a dead end. Meanwhile, young people carry powerful computers in their pockets. They live in a world of instant communication, real-time data, and interactive technology. When we tell them that ham radio allows them to “talk around the world,” we sound outdated before we even finish the sentence.

We do not have a technology problem.
We have a communication problem.

We are speaking the wrong language.

Young people do not reject radio. They reject how we present it.

They want:

- Control
- Creation
- Challenge
- Immediate feedback

Ham radio offers all four. We simply do not show it.

The message must change now:
Ham radio does not let you talk to the world.
It lets you control how the world communicates. That message resonates.

Print does not lead. Digital wins.
Traditional publications struggle to adapt.
They move slowly. They favor legacy content.
They reward routine over experimentation.
Compare that with modern online platforms like SWR Online.
They offer practical builds. Real experiments.
Useful knowledge. Immediate value.

They show, not just tell.
Young operators respond to that approach because it respects their intelligence and their time.

If amateur radio wants to grow, it must move forward:

- Online magazines
- Video demonstrations
- Interactive content
- Rapid publication of new ideas



Photo by: onallbands.com

Bring back building.

Nothing creates engagement like building something that actually works.
We have drifted too far into consumption. We need to return to building.
Every issue. Every meeting. Every event should include a project. Not theory. Not a review. A project.

Examples:

- Build a simple antenna and test it the same day
- Assemble a Software Defined Radio (SDR) station
- Create a live ADS-B aircraft tracker
- Launch and track a high-altitude balloon

Give young people something to build and a reason to finish it.

Make radio visible

Radio fails when it remains abstract. A simple SDR changes everything. A student presses the transmit button and sees a signal spike.

Instantly on a waterfall display.
That moment creates understanding.
That moment creates excitement.
That moment creates a future operator.

Create challenge, not comfort

Young people are not looking for comfort.
They are looking for challenge. We must provide it.

Fox hunts that require strategy and speed
Portable operations that demand planning and execution

Digital decoding that feels like unlocking hidden data

Present radio as a system to master, not just a device to use.

Meet them where they already are

Many young people are already operating on the edge of ham radio. Drone pilots. Makers. Programmers. Off-grid experimenters. They don't need conversion.

They need recognition.

Show them that a license expands their capabilities, it doesn't limit them.

Fix the club experience

If the first meeting fails, everything fails.
No young operator will stay to listen to long reports and procedural discussions.

Clubs must:

Reduce administrative matters to a minimum

Start with demonstrations

Build something at every meeting

Allow immediate participation from new operators

Energy drives retention.

Routine destroys it.



Photo by: hamfest.org

Stop selling nostalgia

Nostalgia doesn't recruit it repels.

Young people don't care how radio worked fifty years ago.

They care about what they can do with it now.

Show them:

Real-time aircraft tracking

Satellite image reception

Off-grid communication systems

Show them power.

The tipping point

The future of ham radio won't come from better advertising.

It will come from better connection.

Magazines must evolve. Clubs must adapt.

Operators must lead.

Push online content. Push building. Push challenge.

Give young people something to build, something to test, and something to master.

Do that—and they won't just join.

They'll lead.

73

N0XO@protonmail.com

A compact, efficient and perfect solution for the modern ham radio operator.

MULTIBAND VERTICAL ANTENNA



Practical construction of an efficient and portable antenna

In the world of ham radio, one of the biggest challenges remains the same: operating multiple HF bands in limited spaces without sacrificing efficiency. For many operators, especially in urban environments or with height restrictions, this can seem like an impossible task.

However, there is an elegant, portable, and highly educational solution: the multiband vertical antenna with a loading coil (loaded coil vertical).

In this article, I will guide you step by step through the construction of an antenna that covers 60m, 40m, 30m, and potentially 20m, using accessible materials and techniques that any ham radio operator can master.

Design concept

This antenna is a shortened $\frac{1}{4}$ -wave vertical that uses a loading coil to compensate for the reduced physical length. Instead of a 10 to 12 meter antenna, this design works with a mast of only 5 to 6 meters.

The key lies in:

- An adjustable intermediate coil
- A variable tap point
- A radial system
- A telescopic vertical element
- This system allows resonance to be changed by moving a clip along the coil, eliminating the need for a tuner in many cases.

Main materials

To build this antenna you will need:

- Telescopic mast (5 to 6 m squid pole type)
- Wire for the coil (galvanized steel or aluminum)
- Wire for the vertical element (approximately 5 to 6 m)
- Wire for radials (minimum 2×5 m)
- SO-239 connector
- Banana type connectors (plugs and sockets)
- Ring terminals
- Basic hardware screws and bolts
- Alligator clip or test hook
- Optional: 3D printed parts for the coil

The design is economical and modular, allowing components to be reused in other projects.

The coil: the heart of the antenna

The most critical element is the loading coil.

Typical characteristics:

- Diameter: approximately 60 mm
- Length: approximately 80 mm
- Turns: 29
- Wire: approximately 1.25 mm

This coil introduces inductance to electrically lengthen the antenna.

Adjustment is made using a clip connected to different points along the coil, changing resonance according to the band.



Step by step construction (practical summary)

1. Prepare the support

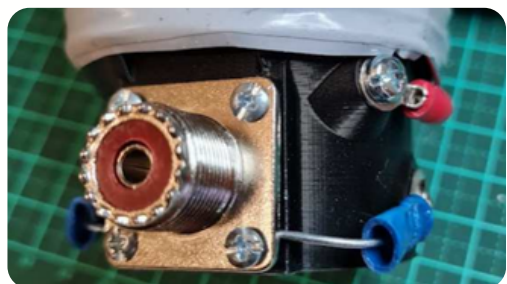
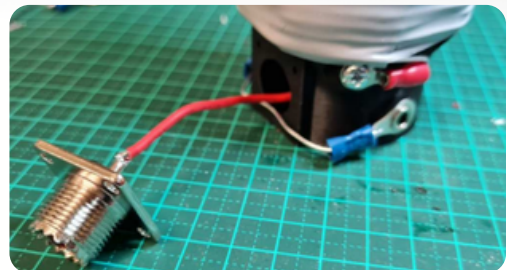
- Print or build the coil support
- Install the SO-239 connector at the base

2. Winding

- Secure the start of the wire with a terminal
- Wind with constant tension
- Temporarily secure with tape

3. Connections

- Coil base → SO-239 center pin
- Top section → connection to the vertical element
- Add a wire with a clip for the tap



1. Radial system

- Connect 2 radials to the ground plane
- Distribute them in opposite directions

5. Final assembly

- Mount the antenna on the mast
- Connect the coaxial cable
- Adjust the clip according to the band

Critical importance of the radials

One of the most important findings during testing was clear:

Without radials, the antenna practically does not function properly.

With radials:

- SWR approximately 1.03:1 on 40 m
- Better reception
- Higher transmission efficiency

This confirms a fundamental principle:

☞ A vertical antenna is only as good as its ground system.



Lessons learned

This project provides key lessons:

Radials are essential

- Connection quality matters (especially connectors)
- Fine tuning with a NanoVNA is highly recommended



- Small errors (such as a loose radial) can cause extreme SWR

A real case showed an SWR of 10:1 simply due to a disconnected radial, causing the transceiver to automatically reduce power.

Advantages of this antenna

- Multiband operation without a tuner (in many cases)
- Portable (ideal for POTA and SOTA)
- Low cost
- Excellent educational tool
- Easy to disassemble (3 to 4 minutes)



Photo by: Ham Radio Operators

Final reflection

More than just an antenna, this project represents the best of amateur radio:

- Experimentation
- Hands-on learning
- Continuous improvement
-

Building this antenna will not only give you a useful HF tool, but will also allow you to deeply understand concepts such as:

- Vertical antennas
- Inductance
- Ground systems
- Resonance tuning

In the words of the original author, projects like this remind us that:

The true essence of amateur radio is not just in operating, but in building, understanding, and experimenting.



Photo by: thingiverse.com

Recommendation

If you are just starting in the world of homebrew or looking for an efficient antenna for limited spaces, this is one of the best builds you can make.

- Especially recommended for:
- QRP operators
- POTA and SOTA activations
- Limited urban spaces
- Educational projects

Based on the original design by Tommy SA2CLC, with technical documentation developed by Bob Fryer (VK1ERF), available at DigitalShack.org. Adapted and presented for SWR Magazine.

KENWOOD TH-D75A

The new standard in digital HT for demanding amateur radio operators

TH-D75A

144 / 220 / 430 MHz TRIBANDER



Design and construction: robustness with purpose

By: SWR Editorial Team

In a market where handheld radios (HTs) have evolved into increasingly complex digital ecosystems, the Kenwood TH-D75A emerges as a solid, ambitious proposal clearly aimed at the advanced operator. Kenwood not only updates its legacy (carried forward from the iconic TH-D74), but also redefines what a modern handheld should be: a hybrid between a portable station, a digital terminal, and an experimentation tool.

From the first contact, the TH-D75A conveys quality. Its construction meets IP54/55 standards, making it resistant to dust and splashes, ideal for activities such as SOTA, POTA, or field work. The size and weight remain within what is expected for a premium HT (approximately 346 g with battery), with well-designed ergonomics. The keypad, although fully featured, may feel dense for new operators, but it is an advantage for those seeking quick access to advanced functions. One important point: this is not a radio for beginners. It is a device designed for those who want full control.

RF coverage and capabilities: much more than a simple HT

The TH-D75A is a true triband transceiver (144 / 220 / 430 MHz), something increasingly rare in today's market.

But what is truly impressive is its wideband reception:

- 0.1 MHz to 524 MHz
- Modes: FM, NFM, AM, WFM, SSB, and CW

This makes it an almost all-in-one receiver, capable of monitoring:

- HF (SSB/CW)
- Airband
- Broadcast FM
- Commercial services

For the curious amateur radio operator, this level of versatility is pure gold.

The digital core: APRS® and D-STAR® at the highest level

Where this radio truly shines is in its digital integration.

Advanced APRS® (best in class)

Kenwood continues to lead this field:

- Built-in GPS with real-time tracking
- APRS messaging
- Station and weather visualization
- Autonomous digipeater function

This means the radio can act as a portable network node, something extremely useful in emergencies or expeditions.

Refined and expanded D-STAR® It includes:

- Reflector mode without an external hotspot
- Simultaneous reception of two digital signals
- Simplified DR mode
- Optimized data transfer (DV fast data)

In practice, this reduces dependence on additional hardware and simplifies overall operation.



Photo by: Kenwood

Connectivity and expansion: ready for the future

The TH-D75A integrates:

- USB-C (data and charging)
- Bluetooth (audio and data)
- microSD
- TNC in KISS mode

This makes it an ideal platform for:

- Winlink
- APRS with a PC
- Integration with external SDR software

In addition, its USB IF output allows it to be used as a frontend for spectrum analysis, something rarely found in HTs.

Audio: the Kenwood signature

Kenwood maintains its reputation:

- Clear and well-defined audio
- Configurable DSP equalizer (TX and RX)

This is not a minor detail. In noisy environments or pileups, intelligibility makes all the difference.

Audio: the Kenwood signature

Kenwood maintains its reputation:

- Clear and well-defined audio
- Configurable DSP equalizer (TX and RX)

This is not a minor detail. In noisy environments or pileups, intelligibility makes all the difference.

Field performance: total versatility

The radio offers:

- Adjustable power: 5 W / 2 W / 0.5 W / 0.05 W
- Dual receive (VxV, UxU, VxU)
- Satellite compatibility (including the ISS)

This makes it an ideal tool for:

- Portable operation
- Satellite communication
- Digital DX
- Emergency communications

Autonomy and power management

The Li-ion 7.4 V 1820 mAh battery offers:

- Up to approximately 6 hours at high power
- Up to approximately 15 hours in low power mode

Although sufficient, heavy users will likely want spare batteries.

Weaknesses and points to consider

No equipment is perfect. Among the less favorable aspects:

- High price (premium segment)
- Steep learning curve
- Some isolated reports of:
 1. assembly details (e.g., keypad)
 2. complex initial setup (GPS/time)

However, these points do not affect the overall performance of the equipment.

Who is this radio for?

The TH-D75A is not for everyone.

It is ideal for:

- Digital operators (APRS / D-STAR)
- Experimental DXers
- Technical amateur radio operators
- SOTA/POTA activators
- Educators and experimenters

It is not recommended as a first radio.

Final verdict

The Kenwood TH-D75A is not just another HT. It is a complete portable station, designed for those who see amateur radio as more than just talking through repeaters.

Kenwood achieves something difficult: combining power, versatility, and technical depth in a single device.

Editorial rating: ★★★★★ (5/5)

Classification: Reference-class HT in the digital era

Conclusion for magazine (excerpt)

"The TH-D75A does not redefine the HT... it redefines what a ham radio operator can do with one."

**From the summit, radio connects the
sky with the world.**



The International Amateur Radio Union

A CENTURY OF SERVICE

For more than 100 years, IARU has worked to ensure amateurs worldwide can experiment, communicate, and serve—protecting our access to the radio spectrum.



Submitted by: Joel W5ZN
Secretary
International Amateur Radio Union

International Amateur Radio Union

A century of service

How did ordinary people, in practically every country in the world, gain and preserve access to such valuable radio spectrum? It did not happen by chance. It required vision and organization. And even today, it still does. That is the role of the International Amateur Radio Union, the IARU.

It all began more than a century ago, at the dawn of global wireless communication. The 1920s were

an exciting time for radio. Technical and operational achievements were emerging one after another. For amateur radio operators, the transition from spark-gap transmitters to continuous wave using vacuum tubes enabled the first two-way transatlantic contact in November 1923, followed by a wave of breakthroughs as “short waves,” or frequencies above 3 MHz, began to be explored.

A decade earlier, the first national amateur radio organizations had already begun to form. In the United States, the main driving force was an inventor named Hiram Percy Maxim. Maxim's vision of a relay network of stations to overcome the limitations of spark technology led to the creation of the American Radio Relay League in 1914.

With amateur stations beginning to achieve global reach, he foresaw the need for an international organization to promote and protect access to the radio spectrum for experimenters. A personal trip to Europe in March 1924 allowed him to meet with leaders of the European amateur radio community in Paris. There, a committee was formed, with Maxim as president, to organize a congress to be held in Paris during the Easter holiday of the following year, with the goal of establishing an International Amateur Radio Union representing those interested in two-way communication.

The April 1925 Congress was a great success, with attendees from 25 countries. A first IARU Constitution was adopted based on individual membership, with the idea of organizing a national section once there were enough amateurs in a country. This approach proved problematic, so in 1929 a new Constitution was implemented based on a federation model.

Since then, the IARU has been composed of member societies, one per country or independent territory. Today there are 170 member societies, each formally admitted by vote.

From its creation to the present, the IARU headquarters, currently known as the International Secretariat, has been provided by the ARRL. Due to World War II, activities were suspended between December 1941 and December 1945; the official IARU bulletin, called *Calendar*, documented the gradual return of amateur radio operators to the bands after the war.

In 1950, several Western European member societies, recognizing the need for greater collaboration, organized Region 1 of the International Amateur Radio Union.

The 1920s were an exciting time for radio.



Technical and operational achievements were occurring one after another. For amateur radio operators, the transition from spark-gap transmitters to continuous wave using vacuum tubes enabled the first two-way transatlantic contact in November 1923, followed by a wave of breakthroughs as "short waves," or frequencies above 3 MHz, began to be explored.

The IARU and began holding regular conferences. Regions 2 and 3 were established later, in 1964 and 1968 respectively. In 1984, a revised Constitution was adopted that formally incorporated the regional organizations into the global structure and established an Administrative Council to implement **IARU policy and management.**

How does the IARU work?

The primary mission of the IARU is to maintain and, if possible, expand access to usable radio spectrum for licensed amateur radio operators. Achieving this requires effective representation before the International Telecommunication Union (ITU), regional telecommunications organizations, and other standards bodies.

This important work is carried out almost entirely by qualified volunteers who dedicate thousands of hours each year preparing for and attending meetings, both in person and virtually.

Expenses are covered through membership fees from IARU member societies to the IARU regions and to the ARRL, as well as support from some societies that fund representatives within their administrations' delegations. In short, individual members of affiliated societies form the financial foundation that makes it possible for amateur radio to be represented when critical decisions are made.

The IARU has achieved significant successes, especially at ITU World Radiocommunication Conferences. Some of the most notable include:

- New 21 MHz band (1947)
- Recognition of the amateur satellite service (1971)
- New high frequency bands at 10, 18, and 24 MHz, and improvement of the 1.8 MHz band (1979)
- Additional allocations for satellite and microwave use (1979)



- Successful defense against the expansion of HF broadcasting (1992)
- Major improvement of the 7 MHz band (2003)
- Relaxation of restrictions to facilitate disaster communications (2003)
- New 136 kHz band (2007)
- New 472 kHz band (2012)
- New 5 MHz band (2015)
- Significant improvement of the 50 MHz band in Region 1 (2019)

With the radio spectrum fully allocated up to 275 GHz, opportunities for new allocations are limited. However, due to increasing commercial pressure on spectrum use, it is essential that the IARU continues to actively participate in the ITU. This is an ongoing process: preparation for the next conference begins immediately after the previous one ends.

Spectrum allocations are only half the challenge. A growing threat comes from human-made interference sources, ranging from power adapters in common devices to wireless power transmission systems.

The IARU works with the ITU, standards bodies such as the International Electrotechnical Commission (and its CISPR committee), national regulators, and other radio services to establish limits on spectrum pollution.

Other activities

- The IARU, together with its regions and member societies, supports various programs and activities, including:
- Intruder Watch (formerly the IARU Monitoring System), to detect unauthorized stations in amateur bands
- Satellite frequency coordination for amateur radio satellites
- International emergency communications coordination
- Amateur Radio Direction Finding (ARDF), popular among young operators
- Youngsters On The Air (YOTA), with international camps and activities
- High Speed Telegraphy (HST) competitions
- Development of band plans for efficient spectrum use
- IARU World HF Championship
- QSL bureau system for low-cost card exchange

For more information, visit the official website: www.iaru.org.

And the future?

The development of telecommunications presents new challenges and opportunities for amateur radio, and the IARU must keep pace with these rapid changes. For this reason, a restructuring plan is underway to improve decision-making speed and optimize the use of limited resources. The history of the International Amateur Radio Union is still being written. Stay tuned!

ON THE AIR

Amateur Radio Contests This Month

UKEICC 80 M CONTEST

Dates: May 30–31, 2026 (00:00 UTC – 23:59 UTC)
Modes: CW
Participants: Worldwide, open to all amateur radio operators
Exchange: RST report + serial number
Note: One of the most important contests in the world. High global activity focused on working as many prefixes as possible.

UN DX CONTEST

Dates: May 16, 2026 (12:00 UTC – 23:59 UTC)
Modes: CW and SSB
Participants: Worldwide
Exchange: RST + ITU zone or region
Note: An internationally focused event with strong European participation.

HIS MAJESTY KING OF SPAIN CONTEST (CW)

Dates: May 16–17, 2026 (12:00 UTC – 12:00 UTC)
Modes: CW
Participants: Worldwide
Exchange: EA stations send RST + province, other stations send RST + serial number
Note: Very popular in Europe; an excellent DX opportunity from the Caribbean.

EU PSK DX CONTEST

Dates: May 16–17, 2026 (12:00 UTC – 12:00 UTC)
Modes: BPSK63
Participants: Worldwide
Exchange: RSQ report + serial number
Note: One of the most active digital contests of the month.

BALTIC CONTEST

Dates: May 16–17, 2026 (21:00 UTC – 02:00 UTC)
Modes: CW and SSB
Participants: Worldwide
Exchange: RST + serial number
Note: A nighttime contest with strong European activity; good DX on low bands.

ROMANIAN AMATEUR RADIO UNION CONTEST (SSB)

Dates: May 31, 2026
Modes: SSB
Participants: Worldwide
Exchange: RST + serial number
Note: A good opportunity for contacts with Eastern Europe.

In each contest you are not only competing for points, but for self-improvement. Each contact is a story, each signal a bridge, and each attempt an opportunity to reach farther.

World Cup on the Air

By: Caryn Eve Murray KD2GUT



It takes teamwork to reach the World Cup stage. Whether a football player is a defender, goalkeeper, striker, or midfielder, each one contributes toward a shared goal: victory in the international tournament taking place across 16 North American cities between June 11 and July 19.

That same spirit of teamwork is now being reflected on the airwaves. Dozens of amateur radio operators are coming together to create a unique on-air celebration, welcoming the

world of football to each host city. Whether operating SSB, CW, or digital modes, these hams are forming coordinated teams ready to call "CQ Football/Fútbol on the Air" across Mexico, Canada, and the United States



As matches begin in their respective cities, operators will be active, generating excitement and support for this 23rd edition of the tournament. This year brings an additional milestone: a roster of 48 teams, making it the largest World Cup tournament in history.

The roots of this large-scale amateur radio effort are surprisingly local. The initiative began with the Lake Whitney Amateur Radio Society in central Texas. After a major ice storm forced the group to scale back their Winter Field Day plans earlier this year, members were still energized for a significant activation.



Soccer event coordinator Ron Franklin, AA5HK, explained that with World Cup matches scheduled for Dallas, the opportunity was too good to pass up. With support from the group's president, Robert Tear, N9KGL, the project quickly moved forward. Outreach soon expanded to amateur radio operators in other host cities, including those in Canada and Mexico.



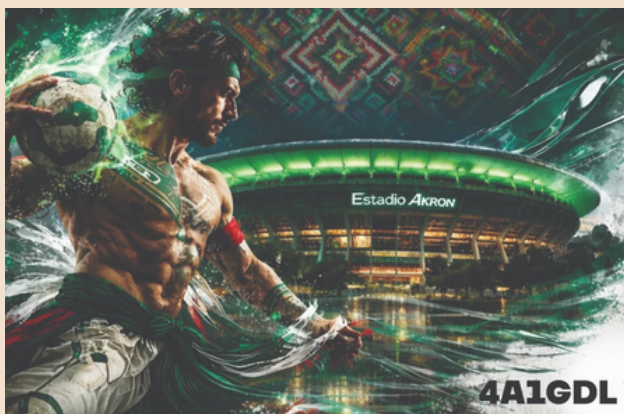
The result has been a rapidly growing, continent-wide activation effort.

Through the website <http://www.wc2026ses.org> and social media hashtags such as #wc2026ses, organizers are providing real-time



updates, including active callsigns, match schedules by city, participating teams, QSL information, and a certificate lookup tool. These resources allow chasers to plan ahead and maximize their chances of making contacts.

Operators who prefer to avoid scanning DX clusters can consult individual city pages detailing operating schedules, including dates, times, and bands.



The website also features a gallery of highly collectible QSL cards, each designed to reflect

the unique character of its host city. These cards will be available to confirmed contacts who submit a stamped, self-addressed envelope to the appropriate address.

The excitement surrounding this event extends far beyond the stadiums. It has reached ham shacks across North America, where the calls of “CQ” and “Football on the Air” are poised for kickoff ready to make contact and score big on the bands.



About the Author

Caryn Eve Murray, KD2GUT, is an active amateur radio operator and dedicated advocate for on-air community engagement. Licensed since 2014, she has built a reputation for combining technical skill with a genuine passion for connecting people through radio.

Operating from New York, Caryn is especially known for her enthusiasm for special event stations, DX chasing, and Parks on the Air (POTA) activations. She is an avid CW operator who enjoys both chasing and activating parks, and values the camaraderie and patience that make Morse code such a rewarding part of the hobby.

For portable operations, she favors efficient low-power setups, often using lightweight field equipment that reflects her practical, hands-on approach to amateur radio. She is also active on DMR networks, extending her reach across both analog and digital modes.

As Publicity Director for Football/Fútbol on the Air 2026, Caryn brings that same energy, creativity, and commitment to promoting one of amateur radio's most engaging international special events helping connect operators around the world through the shared excitement of sport and radio.

IMPEDANCE IN ANTENNAS

THE HIDDEN KEY TO MAXIMUM EFFICIENCY

(WITHOUT THE NEED FOR ADAPTERS)

By: SWR Editorial Team

In modern amateur radio, one of the most frequently mentioned yet least understood concepts is impedance. Many operators focus only on achieving a good SWR, without taking the time to understand what is actually happening between the transmitter, the transmission line, and the antenna.

The reality is clear: impedance is the heart of the performance of any antenna system.



THE GOLDEN RULE

THE BEST ANTENNA TUNER IS A WELL-DESIGNED ANTENNA.

What is impedance, really?

In direct current (DC), talking about resistance is enough. However, in radio frequency we work with alternating signals, where a more complete concept comes into play: impedance.

$$Z=R+jX$$

Impedance (Z) is composed of:

- Resistance (R): the part that actually dissipates or radiates energy
- Reactance (X): stored energy, which can be:
 1. Capacitive (when the antenna is electrically short)
 2. Inductive (when it is electrically long)

When an antenna is properly tuned, reactance approaches zero. At that point, impedance becomes purely resistive, and that is where maximum energy transfer occurs.



KEY IDEA

Maximum power transfer occurs when the reactance is zero and the resistance is equal to that of the transmission line.

Why is it so important in antennas?

Impedance determines how much of the power generated by the transmitter is actually converted into a radiated signal.

When there is a mismatch:

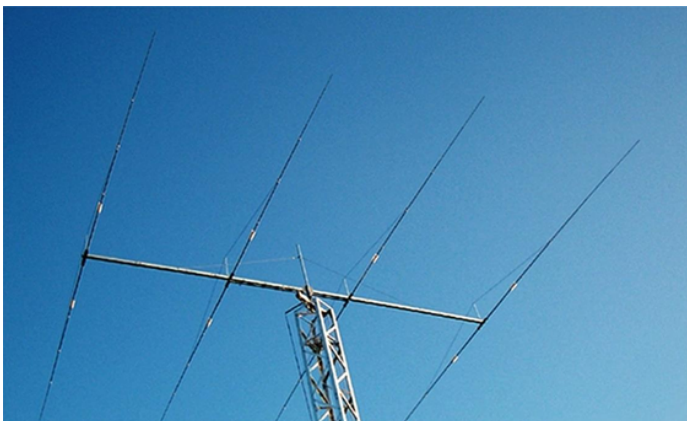
- Part of the signal is reflected back toward the transmitter
- SWR increases (Standing Wave Ratio)
- Losses are generated in the feedline
- Total system efficiency decreases



This is where many operators fall into a common mistake.

A good SWR does not guarantee an efficient antenna.

A system can show a low SWR and still be wasting energy due to hidden losses or artificial matching.



The 50-ohm standard

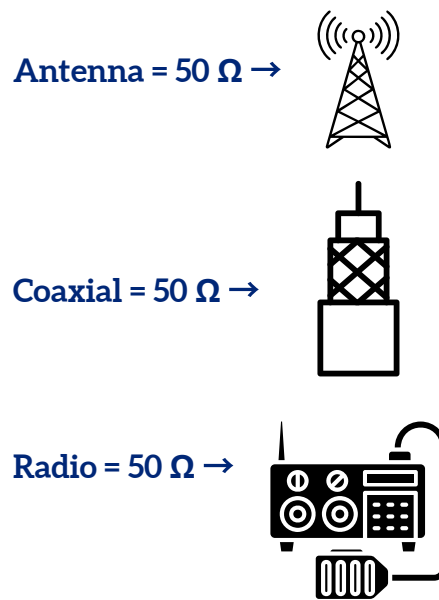
Most radio systems are designed around a standard value:

☞ 50 ohms

This includes:

- Transmitters
- Coaxial cables
- Connectors

The ideal goal is simple:



When this is achieved, optimal power transfer is obtained without the need for additional devices.

Perfect matching is not achieved with accessories; it is achieved through design and measurement.

How to achieve 50-ohm antennas without adapters

The goal is for the antenna to naturally have an impedance close to 50 ohms. This not only simplifies the system but also improves real efficiency.

◆ Geometry from the design

A classic dipole has approximately $72\ \Omega$ in free space. This value can be modified through:

- Inverted V configuration
- Environmental influence
- Interaction with the ground

These variables can naturally bring the impedance closer to 50 ohms.

◆ Height above ground

Impedance changes significantly with height:

- Lower antennas → lower impedance
- Higher antennas → closer to theoretical values

Adjusting height is a real optimization tool, not just for propagation.

◆ Feed point

Moving the antenna feed point changes its impedance:

- Center → higher impedance
- Offset → lower impedance

This principle is the basis of designs such as off-center-fed antennas.

◆ Element angle

Modifying the angle of antenna legs (such as in an inverted V) reduces effective impedance, bringing it closer to 50 ohms.

◆ Measurement-based tuning

This is where theory meets practice.

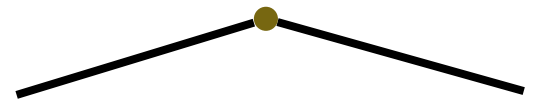
It is not about random cutting, but about measuring, interpreting, and adjusting with intention.

Every physical change must be validated with real measurement.



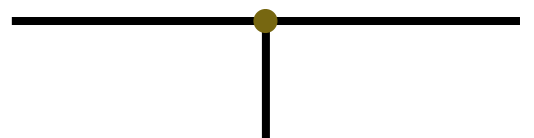
Horizontal dipole

75 ohms

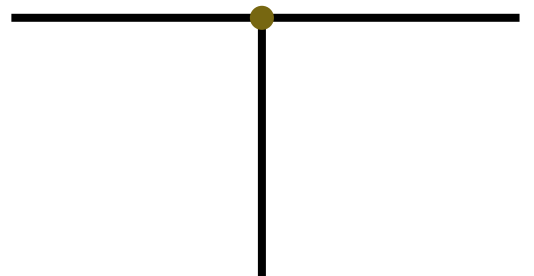


Inverted V

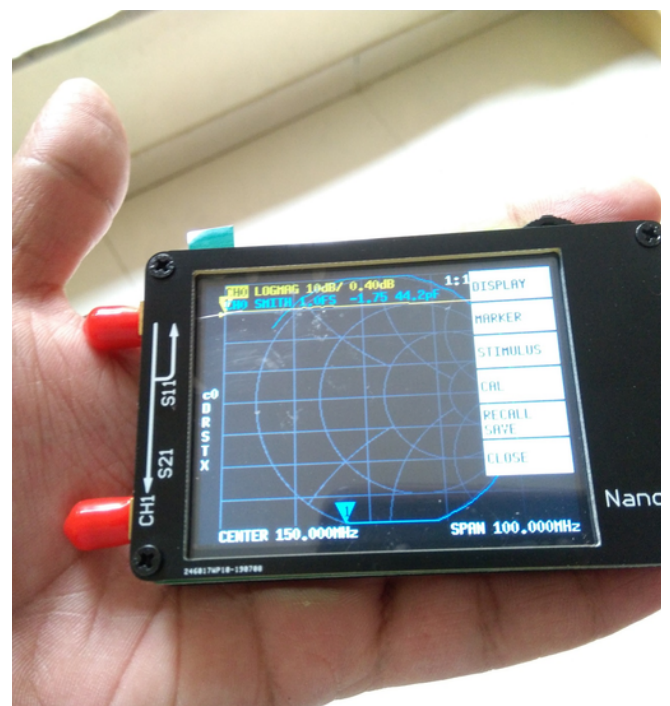
Approximately 50 ohms



Lower height → lower impedance



Higher height → higher impedance

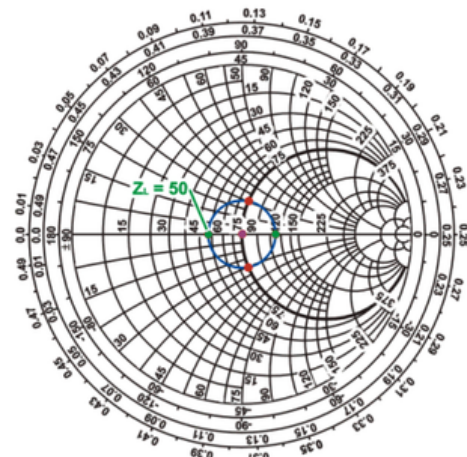
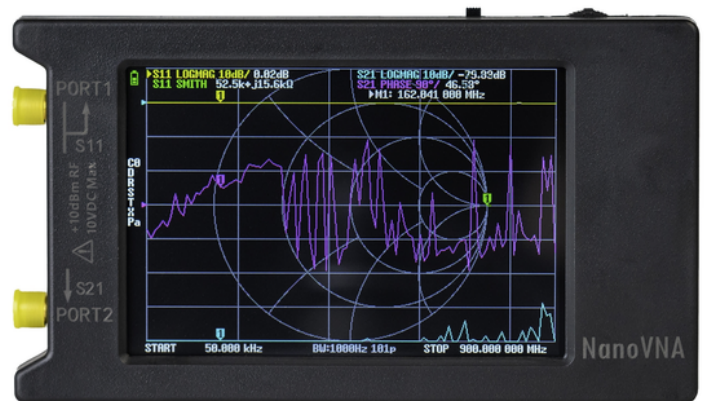


Properly adjusting an antenna

Adjusting an antenna is not about random cutting; it is a technical process that requires measurement and interpretation. Tools like the NanoVNA allow you to visualize what is actually happening.

BASIC PROCESS:

-  **MEASURE THE ANTENNA IN ITS FINAL LOCATION**
 - Never on the ground or outside its real operating environment
-  **IDENTIFY THE RESONANT FREQUENCY**
 - Point where reactance crosses zero
-  **ADJUST THE PHYSICAL LENGTH**
 - Longer antenna → lower frequency
 - Shorter antenna → higher frequency
-  **FIND THE OPTIMAL POINT**
 - Reactance (X) ≈ 0
 - Resistance (R) close to 50 Ω
-  That point represents the maximum possible performance under those conditions.



⚠ The big mistake: depending on the antenna tuner

Many ham radio operators rely on antenna tuners to “fix” their antennas. However, this can lead to a false sense of efficiency.

An antenna tuner:

- Does not improve the antenna's radiation
- Does not eliminate losses in the feed line
- Only matches the impedance seen by the transmitter

☞ In other words:

The tuner protects the equipment, but it does not **optimize the antenna system**.



In other words, the tuner protects the equipment, but it does not optimize the antenna.

⚠ Conclusion

Understanding impedance completely transforms the way an antenna is designed and tuned.

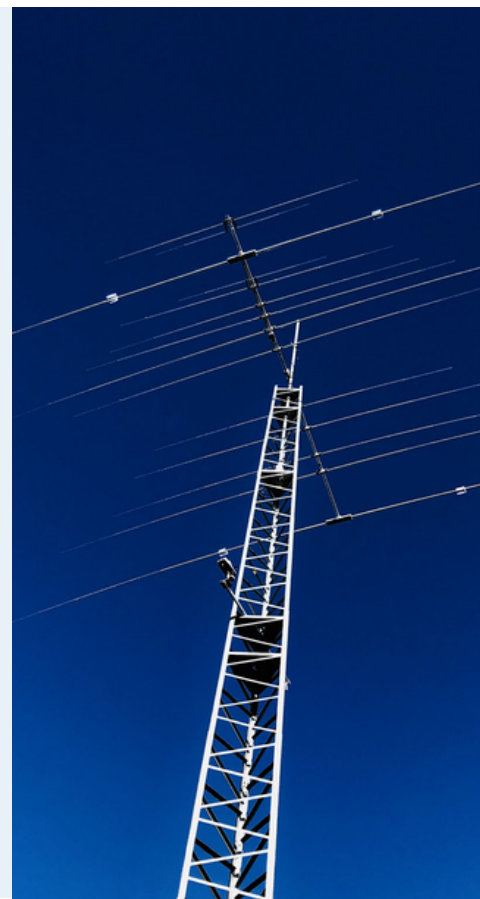
Moving away from relying on external fixes and starting to optimize from the design stage allows for:

- ✓ Higher efficiency
- ✓ Better transmission performance
- ✓ Simpler and more reliable systems

And above all, a deeper understanding of the true spirit of ham radio.

Because in radio, it's not just about transmitting... it's about doing it with purpose and efficiency.

Because in radio, it's not just about transmitting... it's about doing it with intention and efficiency.



The Nostalgia Nook

The spirit that wasn't printed, remembering 73 Amateur Radio

There was a time in ham radio when ideas weren't downloaded... they were waited for.

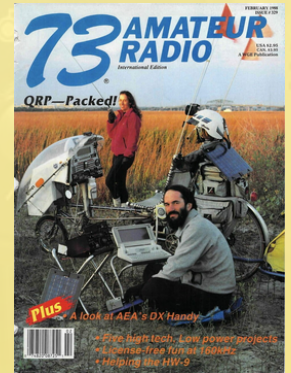
They arrived on paper. With the smell of ink. With folded corners. And with content that didn't just inform, but sparked something inside the operator. One of those sparks was called 73 Amateur Radio.

Founded in 1960 by Wayne Green, 73 Amateur Radio was not just another technical publication. It was, in many ways, a manifesto. While other magazines offered structured information, contest results, or equipment reviews, 73 did something different: it challenged the ham radio operator to think, to build, to experiment.

Understood. Here is the corrected translation without unnecessary dashes, keeping the full meaning and tone intact: Its pages were never meant for the passive operator. They were designed for the curious, for the restless, for the one who looked at their rig and thought, "What if I improve it?" Before "plug and play" took over the modern shack, there was a different reality. One where the operator wound their own coils, drilled metal chassis, and tuned circuits with almost artisanal patience. In that world, 73 Amateur Radio was both a guide and an inspiration.

Each issue brought projects to build transmitters and receivers, ingenious modifications, experimental antennas, and ideas that often broke away from convention. Not everything worked perfectly. And that was the magic. Because mistakes also taught. Reading 73 Amateur Radio was an active experience. Schematics were underlined, values were scribbled in the margins, and pages were marked for "when the parts arrive," while magazines open on the workbench and stained with solder became living tools. In a time without the internet, its pages also served as a meeting point where ideas, opinions, and even debates were shared, often fueled by Wayne Green's direct and provocative style, keeping ham radio dynamic and challenging. It was a different era: no waterfalls, no clusters, where every signal emerged from the noise, every turn of the dial created anticipation, and every contact felt like a true achievement.

When the magazine ceased publication in 2003, it was not just a medium that disappeared, but an entire era that came to a close, one where building, experimenting, and learning with patience were essential parts of the hobby. Yet its spirit still lives on in every ham radio operator who chooses to create, test, and discover for themselves, reminding us that some of the best ideas were never born in factories, but on the pages of a magazine.



By the SWR editorial team

The Nostalgia Nook



Photo by : QRZ Now

UNDERSTANDING DIGITAL VOICE IN HAM RADIO

Part 2

By: Juan Montijo WP4OV

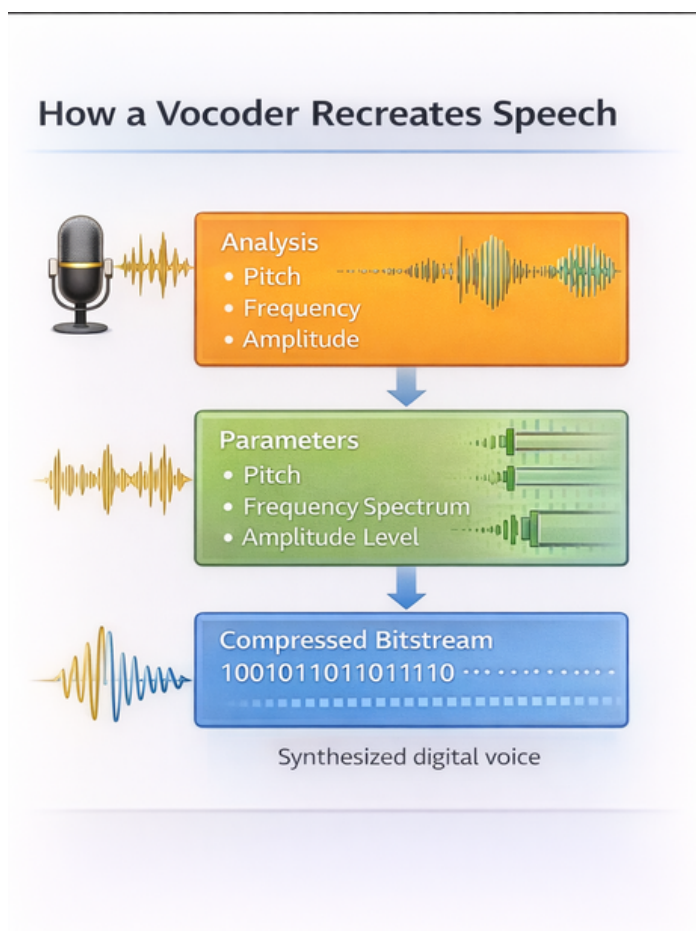
How Vocoders Recreate the Human Voice

At the heart of any modern digital voice system is a component known as a vocoder. The term comes from “voice encoder” and describes a system designed to convert human speech into digital data that can be efficiently transmitted over a limited-bandwidth radio channel.

Unlike analog FM, which transmits the full waveform of the voice directly, digital voice systems analyze certain fundamental characteristics of speech and transmit only the information needed to reconstruct it. This shift in paradigm represents one of the most important transformations in the evolution of radio communications.

The vocoder does not “record” the voice in the traditional sense. Instead, it creates a mathematical model of speech. To achieve this, it analyzes properties of the voice such as pitch, energy, intonation, and the frequency distribution of the sound.

These parameters are encoded into a compact sequence of digital data that can be transmitted using far less bandwidth than a conventional analog signal.



This compression process is highly efficient. While an analog voice signal can continuously occupy several kilohertz of bandwidth, a digital system can represent speech using significantly lower data rates, allowing for a much more efficient use of the radio spectrum.

In many DMR systems, the AMBE+2 vocoder is used, developed by Digital Voice Systems Inc.

This algorithm is specifically optimized for human speech and allows good intelligibility even when available bandwidth is limited. Its design is based on decades of research in digital signal processing and speech modeling.

In addition to DMR, other digital voice systems in ham radio such as D-STAR, System Fusion (C4FM), and P25 also use advanced vocoder variants. Although each has its own technical characteristics, they all share the same fundamental principle: analyzing and reconstructing speech instead of transmitting it directly.

On the receiving end, the process is reversed. The vocoder decodes the received parameters and generates a synthetic version of the original voice. This process, known as speech synthesis, uses digital models to recreate the characteristics of human speech in real time.

Although this reconstruction is not an exact reproduction of the original signal, it is usually precise enough to allow clear and effective communication. However, due to this reconstruction process, digital audio can sometimes have a slightly artificial or metallic sound. This effect is more noticeable when compared directly with the warmth of analog modulation.

This “synthetic” character of digital audio becomes more evident under adverse conditions. When the signal is weak, when interference is present, or when the speech pattern is complex (such as strong accents or very fast speech), the vocoder may struggle to correctly interpret the information. This can result in distorted or fragmented audio.

Even so, when signal conditions are adequate, digital voice offers impressive clarity. The absence of background noise is one of its most

notable characteristics, making communications more comfortable and easier to understand during long operating sessions.

Another important advantage of digital systems is their ability to integrate additional data alongside voice. Information such as station identifiers, text messages, telemetry, and GPS positioning can be transmitted simultaneously, significantly expanding the capabilities of modern ham radio.

DMR vs Analog FM: Audio Quality

Analog and digital systems behave very differently as signals weaken. Understanding these differences helps ham radio operators choose the most suitable mode depending on operating conditions.

In analog FM, the transmitted signal directly reproduces the voice waveform. As the signal degrades, background noise gradually increases. This behavior allows the operator to naturally perceive when a signal is weakening. In many cases, even with high levels of noise, it is still possible to partially understand the message.

This gradual degradation is one of FM's major strengths. There is no abrupt point of total loss of communication, which makes it especially useful in marginal conditions or environments with fluctuating signals.

Digital systems, on the other hand, use a completely different approach. The voice is first analyzed, compressed, and encoded into digital data using a vocoder. As long as the received signal is strong and clean enough to allow proper decoding of that data, the receiver can reconstruct the audio with remarkably high quality.

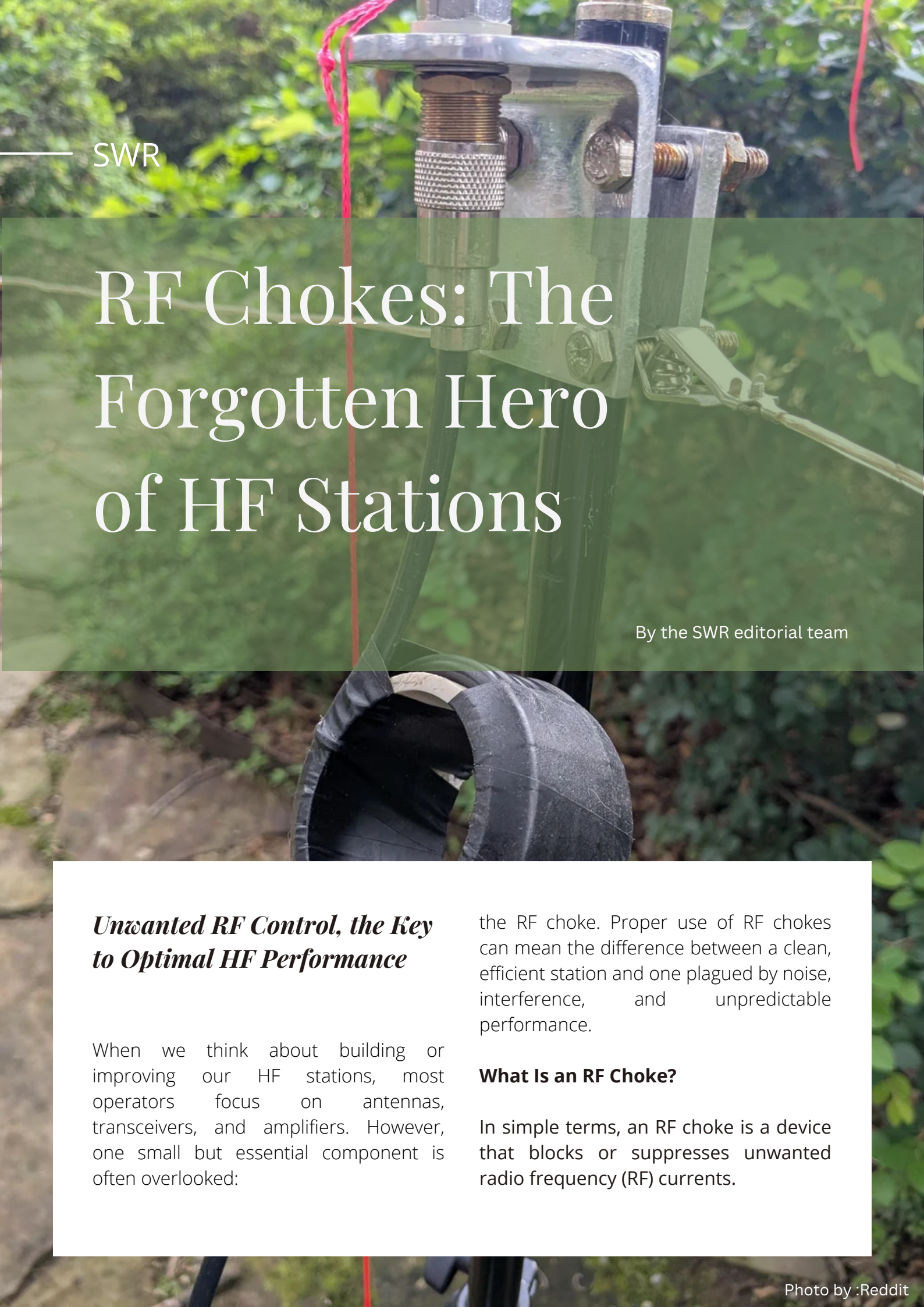


However, this benefit comes with an important limitation. If the signal drops below the threshold required for decoding, the system loses the ability to correctly interpret the digital data. At that point, the audio may become robotic, choppy, or disappear abruptly.

This phenomenon is commonly known as the "digital cliff." Unlike the gradual degradation of analog FM, digital systems maintain high audio quality up to a certain point, and then drop off very quickly.

In practice, this means a digital signal can sound perfectly clear one moment and then almost completely vanish the next, with very little warning. For some operators, this behavior can feel less intuitive than traditional FM.

In conclusion, digital voice and analog FM do not directly compete, but rather complement each other. While FM offers greater tolerance to weak signals and gradual degradation, digital voice stands out for its efficiency, clarity, and advanced features. Understanding both technologies allows the ham radio operator to choose the best option depending on conditions and get the most out of each system.



SWR

RF Chokes: The Forgotten Hero of HF Stations

By the SWR editorial team

Unwanted RF Control, the Key to Optimal HF Performance

When we think about building or improving our HF stations, most operators focus on antennas, transceivers, and amplifiers. However, one small but essential component is often overlooked:

the RF choke. Proper use of RF chokes can mean the difference between a clean, efficient station and one plagued by noise, interference, and unpredictable performance.

What Is an RF Choke?

In simple terms, an RF choke is a device that blocks or suppresses unwanted radio frequency (RF) currents.

It does this by presenting a high impedance to RF signals while allowing the desired current, such as direct current or the intended RF flow within the coaxial cable, to pass normally.

In the world of ham radio, it is used to stop common-mode currents. These are unwanted currents that travel along the coaxial shield instead of remaining confined within the antenna system.

The Importance of RF Chokes in HF

In HF frequencies, long coaxial cables can unintentionally act as part of the antenna system. When common-mode currents flow along the coaxial shield, the results can be frustrating:

- **RFI (Radio Frequency Interference):** Your signal can couple into nearby electronic devices such as televisions, speakers, or even your neighbors' equipment.
- **Distorted Radiation Pattern:** The expected antenna pattern can be altered, changing the radiation angle and gain.
- **Increased Noise Pickup:** A coaxial cable acting as an unintended antenna can introduce unwanted local noise into your receiver.
- **Station Instability:** SWR readings may fluctuate and equipment behavior can become unpredictable.

A properly designed RF choke, placed at the antenna feed point (and sometimes near the shack entry), helps keep RF where it belongs: on the antenna. After writing all your articles and adding them to your layout, list down all the titles



Photo by: palomar-engineers

to set up your table of contents. You can add a brief description for each article or keep it simple and paste the feature titles on the page. Don't forget your page numbers too!

Types of RF Chokes

1. Ferrite Chokes

Ferrite beads or ferrite cores placed over the coaxial cable create impedance over certain frequency ranges. They are compact and easy to install, but their effectiveness depends on the type of ferrite material used.

2. Air-Wound Coax Chokes

A section of coax is wound into a coil or looped around a non-conductive form, such as a PVC pipe. This creates inductance that blocks common-mode currents. They are popular among HF operators because they are inexpensive to build and can be tuned for specific bands.

3. Commercial Line Isolators

Professionally manufactured devices, often using ferrite cores, designed to cover wide frequency ranges. They are convenient and reliable, but generally more expensive.

Building a Simple Coaxial Choke

One of the most effective homemade solutions is a coaxial choke made by winding coaxial cable around a PVC pipe. It works by creating inductive reactance that opposes unwanted RF currents.

Construction Steps:

1. Choose the pipe

A PVC pipe with a diameter of 10–15 cm works well for most HF applications.

2. Select the coaxial cable

Use the same type of coax used for your feed line (for example RG-213 or RG-8X).

3. Determine the number of turns

The number of turns and the diameter determine the effective impedance at your target frequency.

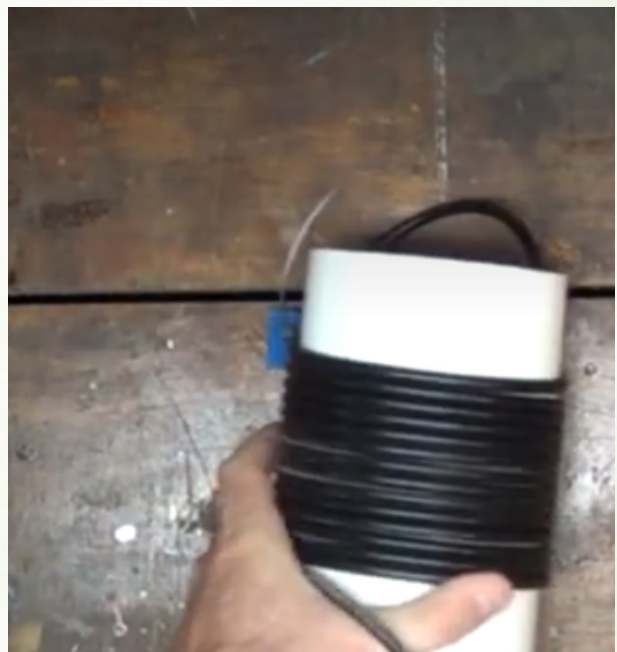
- For 20 meters (14 MHz), about 8–10 turns on a 15 cm pipe work well.
- For 40 meters (7 MHz), you may need 12–14 turns.
- For multiband use, 8–10 turns on a 10–15 cm pipe is generally recommended, providing broad HF coverage.

4. Wind the coax

Make the turns tight and uniform. Keep the loops side by side without crossing for consistent performance.

5. Secure the coil

Use cable ties or tape to hold the coax in place.



Frequency Calculation

The general rule is to provide at least 500 to 1000 ohms of impedance at the frequency of interest. Although precise calculations involve the inductance formula of a coil, many ham radio operators rely on published tables and practical testing instead.

A commonly used approximation is:

- Inductive Reactance (X_L) = $2\pi \times f \times L$
- Where f is the frequency in Hz and L is the inductance in Henries
-

Since inductance depends on the number of turns and the diameter of the coil, online calculators or reference tables can greatly simplify the process. Many ham radio operators design their choke to be effective on the lowest band they operate, since higher frequencies are typically covered automatically.



Photo by: q82.uk



Conclusion

The RF choke may not be the most visually impressive part of your HF station, but it is one of the most important. By controlling unwanted common-mode currents, you will enjoy cleaner signals, fewer RFI complaints, and more predictable antenna performance. Whether you build your own coaxial choke or invest in ferrite-based solutions, every HF station benefits from having one or more RF chokes strategically placed.

Positioning them at key points such as the antenna feed point or near the station equipment helps keep RF where it belongs, radiating efficiently instead of returning along the coax into the shack. This becomes even more important in modern stations with computers and digital equipment, which can be sensitive to interference.

In short, RF chokes are a simple, affordable, and highly effective solution. Integrating them into your station is not optional if you are aiming for cleaner, more stable, and more professional HF operation.



SHERLOCK INVESTIGATES

Radio Failures – Part 3

Cracks, Failures, and Final Clues

By: Anonymous

The Mystery of the Cracked Solder Joint

Solder joints can be deceptive. They may look fine on the surface, but internally they can be cold, brittle, or fractured, especially when one side of a component is fixed while the leads are under stress from the opposite side. Not everything that shines conducts properly.

They can become defective due to “cold solder joints” or mechanical separation. Any component mounted on one side of a printed

circuit board (PCBA) with leads passing through to the other side for soldering is a potential candidate for solder fractures.

Thermal cycling is a major culprit. Leaving your equipment in a freezing cold shack all winter and then powering it on while it is still cold is asking for trouble. Microfractures can create intermittent open circuits that may only be visible under a microscope.

Many solder joint failures can be induced by exposing equipment to very low temperatures for extended periods and then applying power while the system is still cold.

Multiple Radios, One Faulty Trace

Some failures are recurring and share the same root cause.

Many TS-440 radios have been found with similar symptoms. They often lose VCO lock on 28 MHz and only display dots. This is due to a material defect in the VCO cans. The manufacturer used a potting foam to keep components stable in mobile operation. This foam even fooled some NASA engineers.

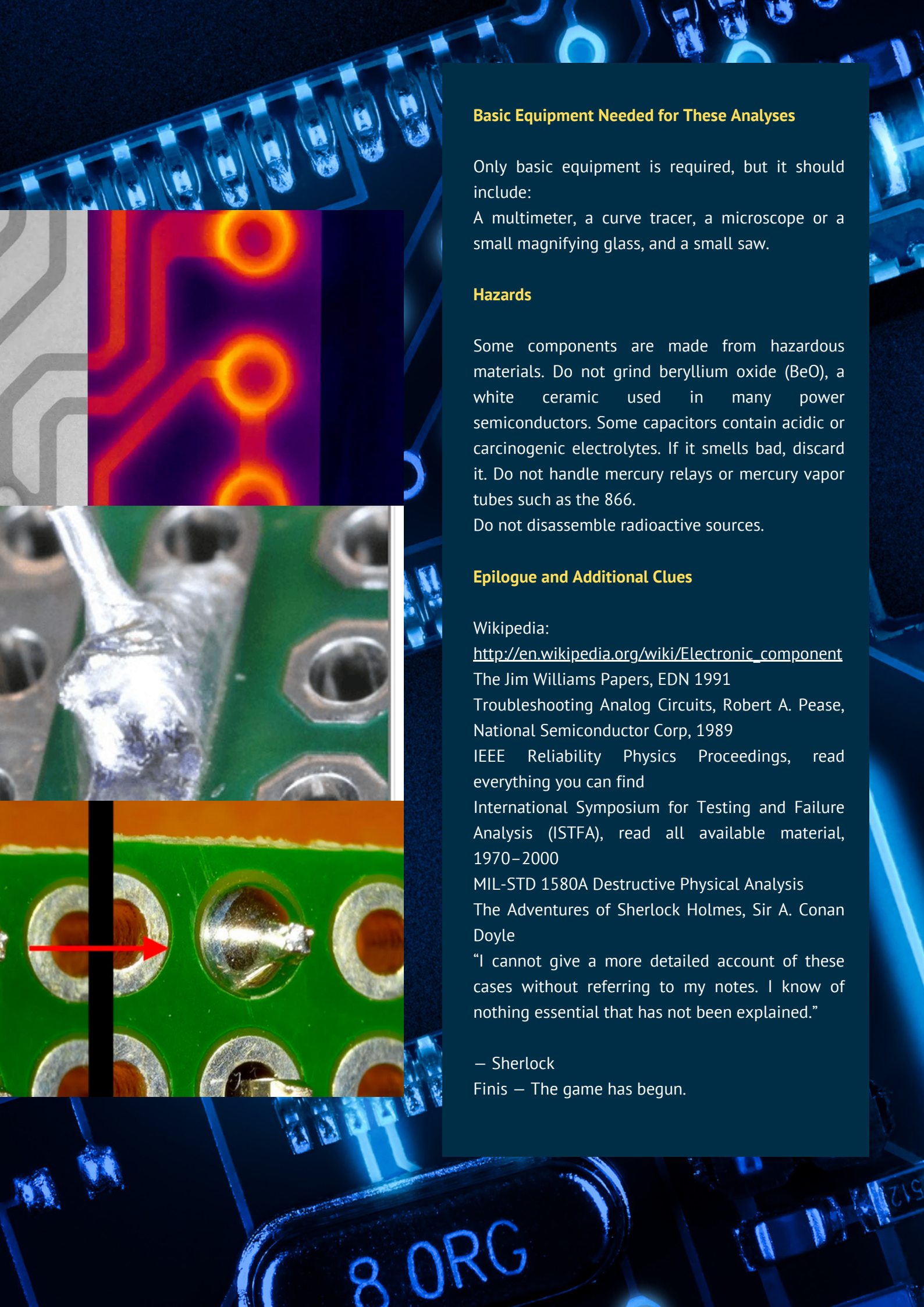
Over time, about 10 to 20 years in humid environments, the foam turns into a sticky, conductive substance. This conductive foam ends up shorting out high-impedance circuits. The repair is simply to remove the material and clean the VCO cans. It is often called "reversion," but in reality it is degradation.

Many foreign engineers use polarized aluminum capacitors as audio coupling capacitors. Audio is alternating current, and the negative portion of the audio voltage can depolarize the capacitor dielectric, causing distortion. The usual symptom is: "The transmitter works fine, but the receiver audio is distorted."

I have bought several radios with this same issue at scrap prices, and by replacing a single capacitor I restored them to proper operation. These radios often come from packet radio systems where the squelch is left open and audio runs at full level constantly.

This design approach works for radios that are mostly muted and used occasionally, but in continuous service they may only last about 10 years.





Basic Equipment Needed for These Analyses

Only basic equipment is required, but it should include:

A multimeter, a curve tracer, a microscope or a small magnifying glass, and a small saw.

Hazards

Some components are made from hazardous materials. Do not grind beryllium oxide (BeO), a white ceramic used in many power semiconductors. Some capacitors contain acidic or carcinogenic electrolytes. If it smells bad, discard it. Do not handle mercury relays or mercury vapor tubes such as the 866.

Do not disassemble radioactive sources.

Epilogue and Additional Clues

Wikipedia:

http://en.wikipedia.org/wiki/Electronic_component

The Jim Williams Papers, EDN 1991

Troubleshooting Analog Circuits, Robert A. Pease, National Semiconductor Corp, 1989

IEEE Reliability Physics Proceedings, read everything you can find

International Symposium for Testing and Failure Analysis (ISTFA), read all available material, 1970–2000

MIL-STD 1580A Destructive Physical Analysis

The Adventures of Sherlock Holmes, Sir A. Conan Doyle

“I cannot give a more detailed account of these cases without referring to my notes. I know of nothing essential that has not been explained.”

– Sherlock

Finis — The game has begun.



EVENTS AND ACTIVITIES SCHEDULED FOR MAY 2026

Conventions, Hamfests, and In-Person Events

**SPECIAL
EVENTS**

- **Dayton Hamvention** – May 15 to 17, 2026. Xenia, Ohio, USA
The largest amateur radio event in the world, featuring technical forums, manufacturer exhibits, and one of the most extensive flea markets in the hobby.
- **Four Days in May – May 14 to 17, 2026. Xenia, Ohio, USA**
A specialized gathering focused on QRP operation and homebrewing, held in parallel with Hamvention.
- **Lucas County ARES Hamfest** – May 2, 2026. Toledo, Ohio, USA
A regional hamfest featuring equipment sales, emergency communications activities (ARES), and community participation.
- **Radio Fiesta** – May 29 to 30, 2026. Schertz, Texas, USA
A popular event in the southern United States with a strong presence of DXers, vendors, and amateur radio clubs.
- **Dayton Contest Dinner** – May 16, 2026. Xenia, Ohio, USA
An annual dinner bringing together top contesters and elite operators from around the world.

On-the-Air / Special Operations

- **Armed Forces Day Crossband Test** – May 9, 2026. United States
A special event where military stations operate on cross-band frequencies, allowing ham radio operators to make contact with official armed forces stations.
- **International Museums Weekend** – May 16 to 17, 2026. International
An international event where special event stations operate from museums, combining history, culture, and ham radio.
- **World Telecommunication and Information Society Day** – May 17, 2026. Global
A worldwide event promoted by the International Telecommunication Union, where many special event stations go on the air to commemorate telecommunications.

By: Yanira Maldonado, WP4QOE

Female Frequency

When Radio Saves Lives, the Role of Women in Emergency Communications



americancontingency.com

When networks fail, when the noise of uncertainty overwhelms any digital signal, and when silence turns into anxiety, ham radio returns to its essence: communication. Emergencies do not announce their arrival politely. They strike, disconnect cities, collapse systems, and leave entire communities without communication. In those moments, when modern technology fails, an antenna, a battery, and a voice can make the difference between despair and hope.

This is what happened during Hurricane Maria in September 2017. I still remember the uncertainty left by Hurricane Maria. I lost my entire home, and it was through ham radio that I was able to request help from friends and government agencies. At that moment I understood that radio is not just a hobby, but a life-saving tool. Puerto Rico was practically cut off. Telephone lines collapsed, internet access disappeared across large areas, and information stopped flowing. But in the middle of that scenario, ham radio became a vital bridge.

Messages that needed to go out were sent. Families who needed to know, found answers. Communities that were isolated became connected again. And in that effort, women were also present. Although their participation is often not highlighted with the same intensity, women have been an active part of emergency communications: coordinating, operating stations, managing information, supporting logistical networks, and sustaining communication during critical moments.



Not always from the main microphone.

But always from essential positions.

Por: Israel Cabrera (KP4AX)

The role of women in these scenarios goes far beyond the technical aspect. It brings organization, focus, sensitivity, and a level of responsiveness that becomes crucial when every message matters.

Because in an emergency, communication is not just about transmitting data.

It is about transmitting calm. It is about knowing how to listen. It is about understanding the urgency behind every call.

Emergency ham radio requires preparation. It is not enough to have equipment; it requires practice, knowledge of protocols, the ability to operate under pressure, and a willingness to serve.

More women can and should be part of this side of the hobby. Not as spectators, but as active operators, as communication leaders, as part of teams that make a real difference when it is needed most. It is not about waiting for the next emergency to act. It is about preparing now: participating in nets, training sessions, drills, and community activities.

Because when the critical moment arrives, there is no time left to learn. There is only time to act.

Ham radio remains relevant because it responds when other systems fail. And within that reality, every operator matters. Every voice matters.

Every woman who chooses to prepare and participate is strengthening not only her own knowledge, but the response capability of an entire community.

Today the message is clear: prepare, get involved, and participate. Join emergency networks, take part in training, and be present in the spaces where response capability is built.

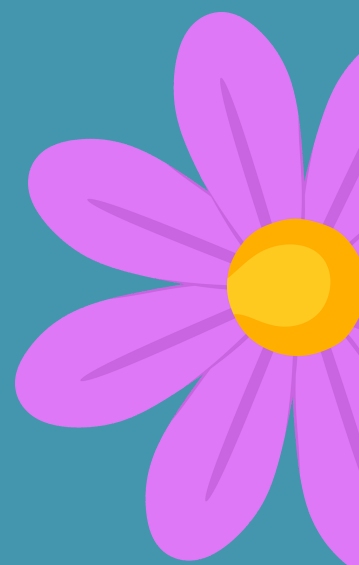
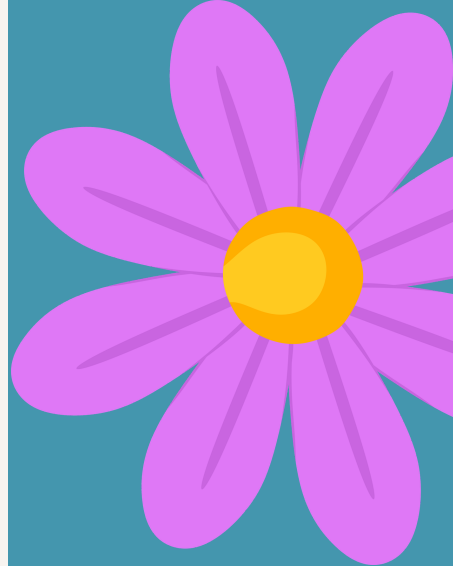
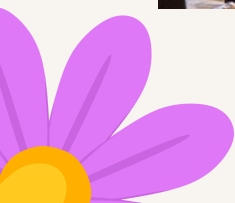
The next emergency will not give warning. But you can be ready.

When everything shuts down, radio remains.

And on that frequency, your voice can also save lives.



Photo by: coloradosun.com



Silence becomes signal, and the landscape becomes connection.



SWR MARKETPLACE

SWR

Tap or click the ad to connect directly with the advertiser.

Air Boss Antenna Launcher
www.olahtechnologies.com
See Video
For when you want your antenna on top
\$99.99
Free shipping to lower 48
olahtechnologies@gmail.com

A white antenna launcher with a black reel and a silver antenna attached.

THIS SPACE IS YOURS

Your ad here — clickable worldwide

THIS SPACE IS YOURS

Your ad here — clickable worldwide

THIS SPACE IS YOURS

Your ad here — clickable worldwide

THIS SPACE IS YOURS

Your ad here — clickable worldwide

THIS SPACE IS YOURS

Your ad here — clickable worldwide

Our sponsors help keep SWR Magazine free for readers around the world. Please support them whenever possible.

PRODUCTS – INNOVATION – SERVICES – COMMUNITY

IS THE ICOM 718 STILL RELEVANT IN 2026?

Its architecture allows for relatively easy repairs.



By the SWR Editorial Team

Less internal complexity means fewer points of failure.



The Icom IC-718 demonstrates that simplicity can be a strength in ham radio, offering reliable HF performance with a robust, accessible design built for steady operation without complications.



The world of ham radio has evolved toward increasingly digital equipment, with advanced displays, SDR processing, and integrated features that only a few years ago were unimaginable in a mainstream transceiver. However, amid all this modernization, there are still radios that remain present in stations around the world. One of them is the Icom IC-718, a radio that, despite the passage of time, continues to be a reference in the entry-level HF segment.

Build Quality

The IC-718 was designed with a clear philosophy: to provide affordable, reliable, and uncomplicated HF operation. Its front panel is straightforward, with no excessive menus or complex configurations, allowing a new operator to focus on what matters most: listening, learning, and transmitting. In a market where many modern radios can feel overwhelming, this simplicity remains one of its strongest attractions.

Performance That Still Holds Up on HF

Although it does not compete with SDR technology in terms of spectrum display or advanced digital filtering, the IC-718 still delivers solid HF performance. Its receiver is stable and consistent, allowing operation in DX, voice, and digital modes under normal conditions. With a good antenna, it is capable of maintaining long-distance contacts with strong signal quality.



It remains a solid option for continuous HF operation.



- Bands: HF (1.8–30 MHz)
- Modes: SSB, CW, RTTY, AM
- Output power: 100 W
- Receiver: Superheterodyne
- Filters: Analog with basic DSP
- Memories: 101 channels
- Power supply: 13.8 V DC
- Use: Entry-level HF base station

A Reliable and Durable Platform

One of the most valued aspects of the IC-718 is its reputation for durability. Many units manufactured over a decade ago are still operating without significant issues. Its simple internal design reduces points of failure, making it an attractive radio for stations seeking long-term stability.

Limitations Compared to Modern Technology

In 2026, it is clear that the IC-718 cannot compete with modern SDR transceivers in terms of advanced features. It lacks a real-time waterfall display and highly precise digital filtering. In high signal-density environments or intense contest operations, these limitations become noticeable, especially for more demanding operators.

The Value of the IC-718 in Real Stations

Despite its limitations, the IC-718 still holds an important place in many shacks. It is commonly used as a primary radio in entry-level stations, as a backup unit, or even as a field station. Its ease of use makes it ideal for operators who prefer to work without technical distractions.

Does It Still Make Sense in 2026?

The relevance of the IC-718 does not come from competing with the latest technology, but from fulfilling its original purpose well. In that sense, it remains a valid radio, especially for those who value simple operation, reliability, and a low entry cost into HF. It is not a modern radio in concept, but it is one that has proven to withstand the passage of time with dignity.

Global Connections

Exploring ham radio beyond borders

Federación Digital EA

Country: Spain

Summary: FEDI-EA is the first federation of amateur radio associations in Spain, created with the objective of promoting activities and services for its members and affiliates, as well as ensuring appropriate representation before the Public Administration.

Web / Contact: www.ararm.org

Europe Day “On the Air” 2026

This year, May 9 falls on a Saturday, but we will be active from Friday the 1st through Sunday the 10th, operating throughout the entire week with the special callsigns: AO1EU, AO2EU, AO3EU, AO4EU, AO5EU, AO6EU, AO7EU, AO8EU, and AO9EU, to commemorate the creation of the European Union in 1950.

As in previous editions, a special QSL card and diploma will be available. Contacts will also count toward the World Radio Clubs Diploma, EANET.

Follow the event updates throughout the day using the hashtag: #eudota



VERON Federation

Country: Netherlands

Summary: VERON (Vereniging voor Experimenteel Radio Onderzoek in Nederland) is the main amateur radio association in the Netherlands. Its mission is to promote experimentation, technical education, and activity in amateur radio, as well as to represent its members before national and international organizations. It organizes contests, events, technical publications, and supports the development of the hobby at a national level.

Web / Contact: <https://veron.nl/>

Deutscher Amateur-Radio-Club (DARC e.V.)

Country: Germany

Summary: The national amateur radio organization of Germany and the largest in Europe. DARC promotes the development of amateur radio through training, license examinations, technical activities, contests, and publications such as CQ DL magazine, as well as support for emergency communications networks. It is structured into districts and more than a thousand local clubs, fostering community, technical experimentation, and international cooperation within the Amateur Radio Service. It is also an active member of the International Amateur Radio Union (IARU).

Web / Contact: <https://www.darc.de/home/>



Asociación U-30 Radioaficionados Leoneses

Country: Spain

Summary: U-30 Radioaficionados Leoneses (callsign EA1RCU) is an association based in León, founded in 1981 to promote amateur radio, technical training, and experimentation. It participates in awards programs, activations, and specialized publications, and has been part of the Federación Digital EA since 2008.

Web / Contact: <https://ea1rcu.com/>



Ham-TV – The Global Ham Radio Program

Web: <https://ham-tv.com/>

Ham-TV is a weekly program dedicated to the world of amateur radio and amateur television (ATV), watched in more than 150 countries. Hosted by a team of enthusiasts, including Tom W5KUB, Katie WY7YL, and other co-hosts, the program discusses technical topics, events, stories, and the global culture of the amateur radio hobby.

In addition to its main broadcast, Ham-TV is also available as a podcast and on digital platforms, including shortwave transmissions via the international station WBCQ on 7490 kHz, making it a meeting point for ham radio operators around the world.



By: Norberto Nosti EA1JAB U-30 Radioaficionados Leonense

THE POWER SUPPLY

The “silent heart of your station”

I Imagine a marathon runner. His heart pumps blood, oxygen and energy to every muscle. If the heart fails, the runner stops, no matter how magnificent he may be.

In your radio station, the power supply is that heart. It is the least glamorous component, the one that never takes the spotlight, but everything else depends absolutely on it.

Today we are going to pay tribute to this often forgotten box that turns the dangerous energy from the wall socket into the pure, stable electrical “blood” your equipment needs to live. Without a good power supply, your 1,000€ transceiver will be nothing more than a very expensive paperweight.



WHAT DOES IT DO EXACTLY?

THE GREAT TRANSFORMATION

Its mission is clear: to take the 230 Volts of Alternating Current (AC) from the mains (a current that “goes back and forth” 50 times per second, full of interference and spikes) and transform it into a perfectly stable and clean 13.8 Volts of Direct Current (DC). This is the standard voltage that powers most amateur radio transceivers.



If the power supply does its job poorly and delivers unstable voltage, with “ripple” (AC ripple) or, even worse, voltage spikes, your radio may:

- Sound bad (with a annoying background hum).
- Behave erratically (restarts, lockups).
- Suffer serious and expensive internal damage.



THE TWO FAMILIES: LINEAR AND SWITCHING

There are two major design philosophies,
each with its own personality.

1 LINEAR POWER SUPPLY: THE HEAVYWEIGHT AND LOYAL



Q What is it?

A large, heavy box (sometimes very heavy, watch your back!), with an iron transformer inside, which usually makes a slight “zzzzz” or vibrates. It has large aluminum heatsinks and often a noisy fan.

⚙ How does it work?

It follows the classic steps we learned: Transform (with a big transformer), Rectify (with diodes), Filter (with large capacitors) and Regulate. It is a robust, simple and predictable design.

Advantages:

- ✓ **“Radio silence”:** Generates very little radio frequency interference (RFI). Its output is extremely clean, which is music to the ears of a sensitive receiver.
- ✓ **Robustness:** They handle abuse and momentary current spikes well.

Disadvantages:

- ✗ **Inefficient and hot:** A large part of the energy is dissipated as heat (that’s why they are so heavy and have a fan!). They consume more from the mains than they deliver to the radio.
- ✗ **Large and heavy:** They take up a lot of space in the shack.

2 SWITCHING POWER SUPPLY (SMPS): THE LIGHTWEIGHT AND EFFICIENT ATHLETE



Q What is it?

A small, lightweight box (almost surprises you how little it weighs). Silent (often without a fan or with one that only starts at high load). They are the most common today.

⚙ How does it work?

It uses smarter and more complex technology: it converts AC to high-frequency DC (thousands of times per second), transforms it with a small ferrite transformer (not iron, hence the weight), and then rectifies and filters it. It’s like a chef who cuts the ingredients into very small pieces so they cook instantly.

Advantages:

- ✓ **Very efficient:** They heat up much less and save electrical energy.
- ✓ **Compact and lightweight:** Ideal for small spaces or for field operations.

Disadvantages:

- ✗ **Possible “noise”:** Working at high frequency, they can generate RFI that gets into the power line or radiates, affecting the reception of your own radio or your neighbors. Not all of them do! Quality supplies for amateur radio are specifically shielded and filtered to minimize this problem.



WHAT SHOULD WE LOOK FOR WHEN CHOOSING A POWER SUPPLY?

THE THREE COMMANDMENTS

1 SUFFICIENT POWER (AMPERES, A)

This is the most important specification. Your transceiver consumes different power in receive (low, 1–2A) than in full-power transmit (high). For a 100W HF rig, you need a supply that delivers at least 25A continuous (and better 30A for headroom).

BASIC FORMULA:

$$\text{Amperes} = \text{Output Watts} / (13.8\text{V} \times 0.6)$$

0.6 is the approximate efficiency.

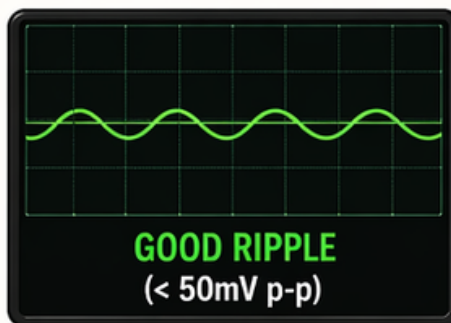
Never stay just on the edge.
Buy with 20–30% margin.



2 LOW REGULATION AND “RIPPLE”

It must keep 13.8V stable even when the load (your transmit) changes suddenly. And the “ripple” (the AC residue left in the DC) must be minimal (less than 50mV peak-to-peak is a good value).

High ripple translates into an annoying 50/100Hz hum in your transmitted signal.



3 PROTECTIONS

A good power supply has circuits that protect itself and your equipment from:

-  **Overcurrent:** If you ask for more amps than it can deliver, it shuts down instead of burning up.
-  **Overtemperature:** It shuts down if it gets too hot.
-  **Short circuit:** If you connect the cables wrong, it protects.



ADVICE FROM AN EXPERIENCED HAM

For your first fixed station, a good quality used linear supply can be an excellent investment: they are robust, clean and last for decades.

For portable operations or a modern radio station, a high-quality switching power supply (from a reputable brand for ham radio, not a generic PC supply) is the best choice.



REMEMBER:

Your radio signal is only as good as the energy that feeds it.
Don't skimp on the power supply. It is the foundation of everything else.

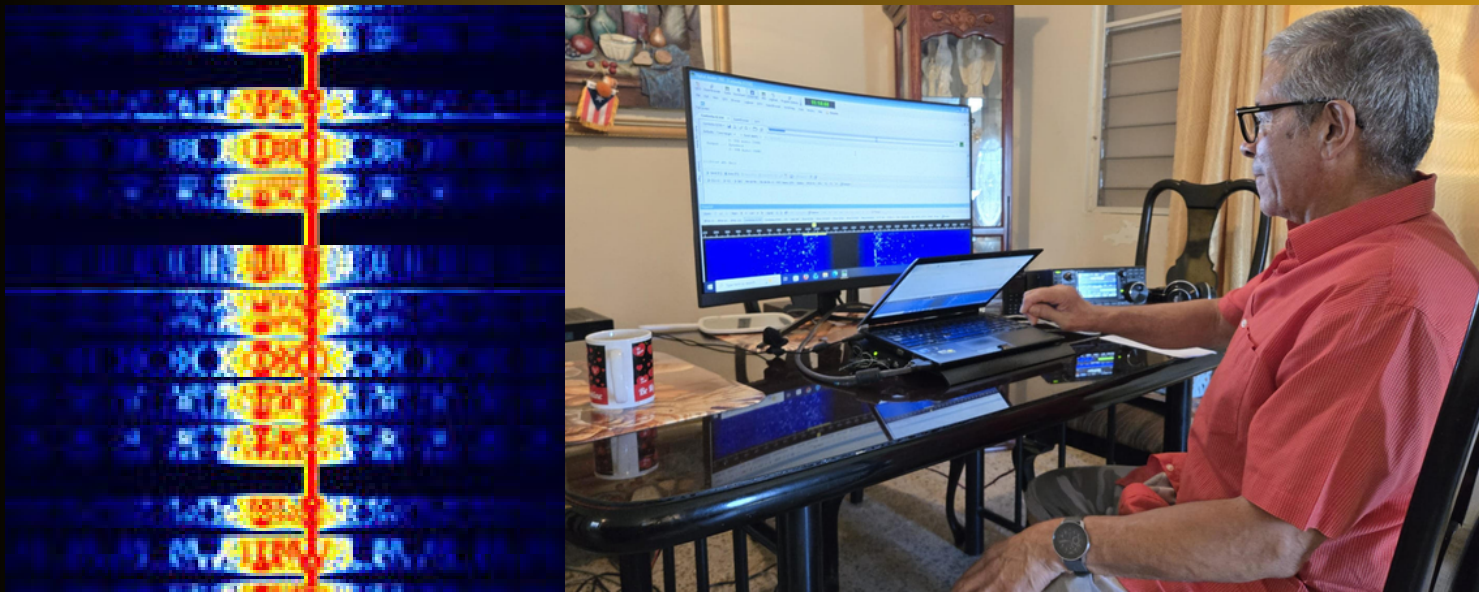


The next time you turn on your equipment, take a second to thank that humble box that, without making noise, makes all the magic that follows possible.

**Between waves and waves, the signal is never
lost.**



HELLSCHREIBER



BETWEEN LINES AND NOISE, WHEN TEXT IS DRAWN IN THE AIR.

By: Abimael Padro KP4RY

I always say the same thing when someone asks me about “weird” digital modes: you definitely have to try them to understand them. Because reading about them is one thing... and sitting in front of the radio watching them come alive is something completely different.

I remember that night well. I was on 40 meters, quite late. Propagation wasn't great, but it wasn't dead either. One of those nights that feel ordinary... but always have something interesting hiding in them if you know how to look.

I had FLdigi running as usual, checking PSK31 and a few Olivia attempts. But then I saw something on the waterfall that didn't quite fit. It wasn't the usual thin traces... this was wider, like a block slowly moving across the display. And that's when I said it: obviously... this is Hell.



I'm talking about Hellschreiber, a mode that many know by name, but few actually operate. It looks complicated... but it isn't. The real issue is understanding what you are actually looking at.

Because Hell doesn't work like other digital modes. There is no computer decoding perfect characters here. No. Here you are seeing text as an image. Literally, as if someone were sending a fax through the air.

That night I kept watching the screen... and vertical lines started to appear, slightly distorted, mixed with noise. At first, nothing made sense. But little by little, the eye adapts. The brain starts doing its job.

CQ CQ DE... something... then clearer: DL1...
And that's when you say: definitely, this works.

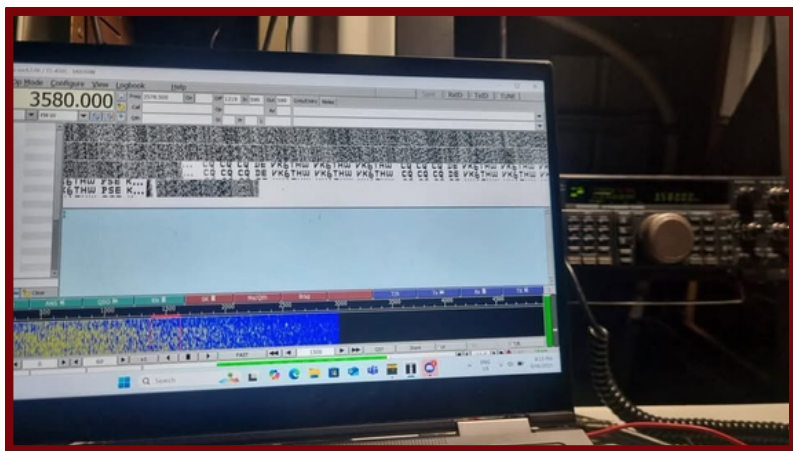


Photo by: NCRG

Now, if you really want to practice Hell properly, I'll explain how I do it, no complications. First, you need a stable HF radio. It doesn't have to be anything fancy, but it does need to hold frequency well. Second, an audio interface, although nowadays many radios already have that built in. And third, the software. I use FLdigi because it is simple and reliable.

You open FLdigi, and in the mode list you select Feld Hell. There are several variants, but that is the classic one. Obviously, you can later experiment with others such as Slow Hell, but start there.

Then comes the important part: the audio.

It sounds complicated, but it isn't... what you want is for the signal to come in clean, without saturation. You adjust the input volume until the waterfall looks clear, without the colors being "blown out." If it is too strong, the text becomes distorted. If it is too weak, you don't see anything useful.

After that, you tune the frequency. Hell is not as popular as FT8, so you have to search a bit. On 40 meters, you can try around 7.178 MHz, although this varies. The key is to recognize the signal: it looks like a wide block, not a thin line.

When you find a signal, don't expect perfect text. That is the first thing that confuses people. Here, letters are "drawn," sometimes tilted, sometimes with noise over them. But that is where experience comes in.

I always say: obviously, here you read with the brain, not with the software. That night, after identifying the signal, I stayed watching without touching anything. I let the text flow. Little by little, the letters became clearer. The callsign, the CQ, the location.

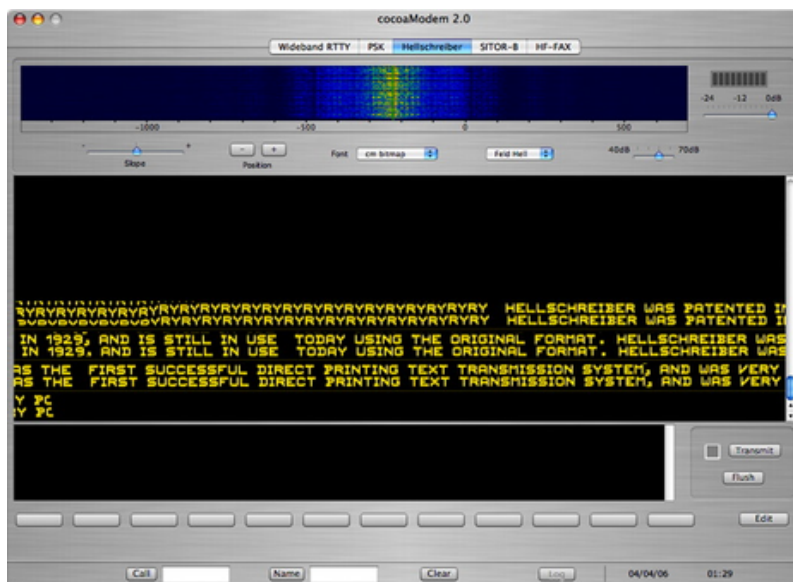


Photo by: w7ay.net

Then I responded.

In FLDigi, you type your message normally: CQ CQ DE KP4RY KP4RY... and when you transmit, the program converts that text into an image that is sent over audio. That simple. It sounds complicated, but it is easy. But there is an important detail: speed. Hell is not fast. And that is definitely part of its charm. There is no rush here. Each letter is drawn line by line. If propagation is poor, it will look messy... but it is still visible. And that is the amazing part.

I answered the CQ and waited.

Nothing immediate. As it should be.

After a while, the response starts coming in on the screen. Tilted letters, with noise... but readable.

KP4RY DE DLI...

And that is when you understand something many people miss today: not everything has to be perfect to be effective.

Hell was invented by Rudolf Hell, long before this modern digital era. And yet, it still works. Why? Because it takes advantage of something no computer has fully replaced: the human brain's ability to interpret patterns to recognize patterns, even under poor conditions.

Definitely, that is brilliant.

We kept exchanging short messages. Nothing complicated. Reports, location, a greeting. But every line appearing on the screen felt like watching living history.

I made small adjustments to the clarifier, fine-tuned the audio... tiny details. Because in Hell, everything matters. A minimal change can make the difference between seeing scribbles... or reading clearly.

And meanwhile, I was thinking: obviously, this is not for everyone.

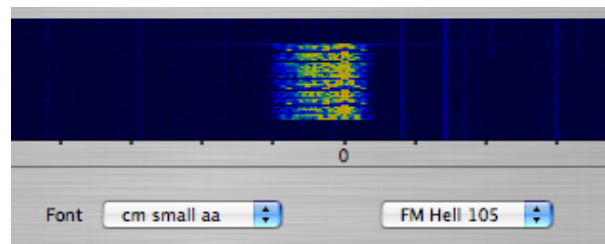
Those who want immediacy go to FT8. Those who want clear conversation use PSK31 or JS8Call. But those who really want to understand how signals travel, how noise affects them, how the brain interprets them... they stay with Hell.

That night I finished the QSO, leaned back in the chair, and just watched the waterfall for a while.

Because when you manage to read text that is literally drawn through noise... you are on another level.

And as I always say: it looks complicated... but it is easy.

You just have to sit down, observe... and let the radio teach you.



SWR DID YOU KNOW?

History of Radio in 100 Words

Did You Know? - “CQ” Was Once a Pop Song



Did You Know? – “CQ” Was Once a Pop Song

In 1979, Austrian artist Rudi Napravnik released a novelty synth-pop single titled “CQ, CQ”. Inspired by the universal ham radio call “CQ,” the song reflects a period when radio communication had entered mainstream popular culture across Europe. During the late 1970s, both CB radio and amateur radio were booming, and terms like “CQ” were widely recognized even by people outside the hobby.

Interestingly, the record was released as a special edition, suggesting it may have been intended for promotion or limited distribution. Although it never became a major international hit, it remains a fascinating example of how amateur radio influenced pop culture.

Another piece of radio history.



FOX HUNTING

A Mobile Foxhunt on the Asphalt

By: Julio Mercado WP4PUX

I don't know who was the first person to say that "fox hunting" was something you did sitting still, with a map in your hand and a couple of well-calibrated antennas... but clearly they had never driven a delivery truck with a radio on and coffee in the console.

I'm one of those who believe the radio doesn't

stay on the shack desk. The radio travels with you, gets dirty with you, and if you're not careful, it even makes you laugh right in the middle of traffic.

That day started like usual, with the delivery list, the mobile radio turned on, and the vague idea that it was going to be a "normal day." You know... that phrase that in the ham radio world almost always means the opposite.



FOX

The “fox” was announced as an intermittent transmission, low power, hidden... the kind that makes you doubt everything: your equipment, your hearing, and even the very existence of the signal itself.

“Perfect,” I said to myself. “I’m going to try this while moving.” Great idea... until you remember you’re driving.

First contact: the signal appears

The first clue came, as always, gently almost shy. A weak carrier, barely a whisper in the background noise. It rose... fell... disappeared.

“There it is...” I said under my breath, as if the radio could hear me and might get scared away.

I slightly adjusted my route without even realizing the game had already begun. The fox had decided to show itself right when I had an urgent delivery on my schedule.

Of course, because in a ham radio operator’s life, nothing respects schedules.

The Chase Begins

With every stretch of road, the signal changed personality. In one area it was strong, almost arrogant. In another, it disappeared as if it had never existed.

Me, between traffic lights, traffic jams, and packages, kept talking to myself:

“Okay... didn’t expect that.”

“Hmm... interesting propagation behavior...”

“No, no, no... now it went the other way.”

At that moment I realized something important: the fox wasn’t just hiding... it was playing with me.

And honestly, I was enjoying the game too.

Technique on the Move (or How to Improvise with Style)

In a formal fox hunt, you have time to rotate antennas, adjust instruments, take notes... in my case, I had:

A steering wheel

A radio

A mind trying to remember where the last strong reading was

And a laugh slipping out every time I lost the signal

Direction at that point was more intuition than science. A bit of experience, a bit of “this feels right,” and a lot of “let’s see what happens if I go this way.”

And it worked... more or less.



Photo by: w4trc.org

The Unexpected Turn

At one point along the route, the signal came back stronger than ever. Not only that, it held steady for several seconds.

"Now I've got you," I said with the confidence of someone who had clearly said that before... and been wrong.

I followed the direction. The signal improved... then worsened... then improved again. Until I realized the obvious: The fox wasn't moving... I was. And that's where the real magic of the game lies: the illusion of control.

Reality Check: a Delivery

Right at the most interesting moment of the chase, I had to stop for a delivery. I stepped out of the vehicle, greeted the customer, short conversation, polite smile.

"Busy day?" they asked.

"You have no idea," I replied.

If only they knew that at the same time, I was chasing an invisible signal that came and went as if it had a personality of its own...

The Lesson of the Road

At the end of the day, I neither "won" nor "lost" the hunt. The fox remained elusive, just as it should in any good fox hunting exercise.

And it's worth clarifying something for anyone reading this for the first time: in ham radio, when we say "the fox," we are not talking about an animal in the literal sense, but about a hidden transmitter emitting a weak or intermittent signal. It is the "target" of the hunt, a beacon or concealed station that participants try to locate using direction finding, signal strength, and observation techniques.

In other words, it's the objective of the game.

.

With that in mind, what I chased throughout the day was nothing more than a playful signal, hidden in the noise, changing strength and direction as if it had a will of its own. But beyond the outcome, I understood something deeper: radio is not always about control. Sometimes it is observation. Sometimes it is patience. And other times... it is laughing to yourself on the road because you just spent several routes chasing an invisible signal. When I returned to the end point of the day, I turned off the equipment for a moment and thought:

"Okay... tomorrow I'll try again." Because deep down, every ham radio operator knows the same thing:

You never truly catch the fox... it just lets you believe you almost did.



Photo by: besthamradio.com

TOWER ON THE AIR (TOTA)

A NEW FRONTIER IN HAM RADIO

By: Luis Gómez, WP4LG



Ham radio has always been a space for innovation, exploration, and community. In late March 2026, I decided to take a step toward that shared essence that unites us as amateur radio operators: bringing into our environment a program that, although it already existed, had not yet taken root in our region. That is how my journey with Tower On The Air (TOTA) began.

My name is Luis Gómez, callsign WP4LG, and as trustee of KP4CGX, I began coordinating with the administrators of this international program with the goal of implementing it in Puerto Rico. At that time, TOTA was practically unknown in the Americas among activators, which represented both a challenge and an opportunity.

After several discussions and official

acceptance to become the Puerto Rico coordinator, I realized that this project should not remain limited to a single island. That was when I extended the initiative to our fellow ham radio operators in the Dominican Republic, who embraced the challenge with enthusiasm and are already actively working on collecting data on towers and observation sites across their territory.

With the support of the TOTA administrators, we developed our own logos for Puerto Rico and also took the opportunity to create the visual identity of the program in the Dominican Republic, strengthening the regional character of this initiative.

In an initial phase, we managed to gather information on approximately 35 towers in Puerto Rico. These were evaluated and are now part of the program's official database. To identify them, the prefix KPR was established, followed by a number assigned to each tower, creating an organized and easy-to-use structure for activators.





Saturday, April 11, 2026 marked a historic moment: I carried out the first successful TOTA activation in Puerto Rico and across the Americas, from the municipality of Aibonito. On this occasion, I activated tower KPR-0007, corresponding to the Piedra Degetau viewpoint, achieving a total of 19 QSOs, including 17 individual stations and 2 radio clubs. The activation was also supported by the KP4CGX Caguax Radio Club, setting an important precedent for the program in our region.

I am currently organizing TOTA's participation in the upcoming FRA Hamfest 2026, to be held on April 26. This event will be an excellent platform to officially present the program alongside others already established such as POTA, SOTA, BOTA, and the successful LLOTA (Lakes & Lagoons On The Air). I will have the opportunity to share with the amateur radio community the details, goals, and potential of TOTA as a new activation format.

The official launch date of the program in Puerto Rico has been set for May 1,

2026, and I am already working on promotional materials that will be distributed during the Hamfest to operators interested in participating.

TOTA represents much more than a new program: it is an invitation to rediscover our structures, viewpoints, and towers from a technical, operational, and adventurous perspective. It is an opportunity to connect, document, and share, taking our ham radio activity into new environments.

I invite all interested operators to learn more about the program by visiting its official website:

<https://wwtota.com/>

Likewise, those who wish to become coordinators in their respective countries can contact:

OK1CYC – Mirek ok1cyc@gmail.com
(Tower database management and validation)

See you on the air... from the heights.

THE HAM RADIO ZONE



El Dr. Nathaniel Frissell (W2NAF) He was recognized as Educator of the Year 2026 during the Orlando HamCation event, standing out for his impact on teaching and promoting amateur radio at the academic level. A professor at University of Scranton, Frissell has dedicated his career to the study of the ionosphere and HF signal propagation. He is also the founder of HamSCI, an initiative that brings together amateur radio operators and scientists to study space weather through collaborative experiments, including research conducted during solar eclipses. His work has inspired students and operators to actively participate in real scientific projects.

This recognition highlights his ability to integrate amateur radio with education and research, demonstrating that the hobby can also be a powerful scientific and educational tool.

Martha Fell y Joe Fell They received the Special Achievement Award 2026 during the Orlando HamCation event, in recognition of their outstanding contributions to the service and promotion of amateur radio. Both have dedicated years to supporting educational, operational, and organizational activities within the ham radio community, strengthening the participation of new operators and the development of collaborative projects. Their work has been key in training initiatives and in promoting events that connect radio amateurs from different regions. This recognition highlights their ongoing commitment to the growth of the hobby and their positive impact on the global amateur radio community.



Robert Famiglio He has been announced as the recipient of the Technical Achievement Award 2026 from the Dayton Hamvention, a recognition given for outstanding technical contributions within the Amateur Radio Service.

Famiglio, known by his callsign W3MR, has dedicated much of his career to promoting and supporting the technical development of amateur radio, particularly in areas related to station infrastructure, advanced operating practices, and support for community-based ham radio activities. His work has been instrumental in improving systems and strengthening initiatives that drive innovation within the ham community.

This recognition highlights his ongoing commitment to the technical progress of amateur radio and his positive impact on the growth of the service at an international level.

What K3LR taught me about radio, brotherhood, and why shrimp scampi matters just as much as pile-ups.

By: Terry Rossi, N2LQH

Hot Tuna, YouTube, and a New Jersey Cook at the World's Largest Contest Station



It's 2:00 AM in western Pennsylvania. Eleven of the world's top contest operators are seated in front of their Icom IC-7851 stations. Outside, massive antenna towers point toward every continent. Inside, there is only the focused silence of a world-class operation.

And I'm there... a relatively new HF operator and backyard cook from South Jersey, still trying to understand how I ended up in this place.

The Return to Radio

I first earned my license in the early 1990s, but like many stories, life and work pulled me away from amateur radio. For years, it went quiet.

In 2025, I decided to return. I sold my business, my kids were grown, and I rediscovered amateur radio. Everything had changed SDR, digital modes, computer control, global contests in real time. I upgraded to General and got back on the air.

General and got back on the air.

My curiosity led me to the ARRL DX SSB contest. On YouTube, I found a presentation by Tim Duffy, K3LR, showcasing one of the most advanced contest stations in the world. Towers, antennas, multiple radios running at once it was on another level entirely.

And then, unexpectedly, I saw a familiar face.

2026 ARRL DX Phone Contest - Team K3LR



The 2026 ARRL DX Phone Contest Team K3LR. Back row (l-r): N2NC, WM2H, NP4G, N3GJ, K3UA, N2NL, W2RQ, N5UM, N3SD, N2LQH. Middle: Bonnie, N2NT. Front row: K1DG, DL1QQ, K3LR, K1AR. First place, Multi-Multi — 11,829,195 points.

The Unexpected Reunion

It was "Chef Sal, WM2H." But I knew him as Sal Anastasio, the brother of a childhood friend. Decades ago, Sal used to drive us to school in his Chevy Chevelle, listening to Hot Tuna on 8-track.

I never imagined he was also a ham radio operator... much less part of the K3LR culinary team.

I reached out, we caught up, and what seemed like just a story ended there.

Until I wrote an email to DX Engineering about my return to the hobby... and mentioned the entire story.

The Unexpected Invitation

That email eventually reached Tim Duffy. Somehow, it was shared with the K3LR team... and with Sal.

Weeks later, the invitation arrived: to join the 2026 ARRL DX Phone Contest team at K3LR.

Without realizing it, I went from being a YouTube viewer to a participant at one of the most important contest stations in the world.

K3LR: Another Planet

Nothing prepares you for K3LR in person.

The complex spans fourteen towers across sixteen acres, including a 275-foot tower. The main station features multiple Icom IC-7851 transceivers running in parallel, high-power amplifiers, and custom-built antenna systems.

But what is most impressive is not the technology it is the discipline. There are no noisy power supplies. No improvised equipment. Even the lighting is entirely incandescent to eliminate RF interference. Everything is designed for one purpose: absolute, noise-free performance.



The Contest

Each band has dedicated teams. One operator holds the frequency; another hunts multipliers. On 160 meters, a single operator carries the entire load.

For 48 hours, time is measured in contacts, not hours.

The final result for 2026: more than 6,600 contacts and 11,829,195 points. First place worldwide in the Multi-Multi category.

But at K3LR, winning is not the end. It is only the starting point for thinking about the next year.

More Than Radio: A Family

What truly sets K3LR apart is not the towers or the radios, but the people. Before the contest, there are dinners, reunions, and tradition. Every operator receives a personalized mug with their callsign. Every detail matters.

During the event, the station never stops but the kitchen becomes another operating center.

That's where Sal and I were. Breakfast for everyone. Sandwiches organized with military precision. And full dinners: shrimp scampi, pork tenderloin, steaks, asparagus, mashed potatoes, creamed spinach. All to keep operators performing at their absolute best.

The kitchen becomes part of the system.

The Closing

At the end of the contest, the team gathers. There are thank-yous, stories, and genuine recognition of a collective effort.

There was even a special moment: the early announcement recognizing José "Otis" Vicens, NP4G, as Ham of the Year for the 2026 Dayton Hamvention.

Then came the final tradition: a bottle of Maker's Mark signed by every operator, destined to remain in the "DX Barn" as a permanent memory of the event.

I signed mine: N2LQH.

Final Thoughts

I'm not a great chef. And I'm not one of the big names in radio.

But amateur radio has a strange way of connecting stories that were never meant to cross.

A YouTube video. A childhood friend. A cook from New Jersey.

And somehow, it all ended up at the world's largest contest station.

73 N2LQH



SWR



Photo by: reflector.sota.org